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ORIGINAL LECTURES.

SUICIDE IN ITS RELATION TO INSANITY.

An Address delivered before the Medical Jurisprudence Society of Philadelphia, December 13, 1887.

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THE alarming increase of cases of suicide within the past few years, especially in this country, calls for the serious consideration not only of the philanthropist, but also of the medical jurist. Indeed, the medico-legal considerations connected with this subject are not only interesting to the student of legal medicine, but they involve questions of the deepest significance, which not infrequently claim the attention of our courts of law, and enlist the best talent of both the legal and medical professions.

This subject of suicide presents numerous phases for examination which are interesting and instructive for us as medical jurists; but I propose to limit myself to the discussion of a single one of them, viz., the relation of suicide to insanity in its medico-legal aspects. Does, or does not, the act of self-destruction always presuppose the existence of insanity? Or, in other words, is suicide to be regarded always as evidence of a deranged mind? The settlement of this question touches some of the most vital interests of society, and according as the verdict rendered is yea or nay, in any particular case of suicide, will be the feeling of the survivors that the act of the unhappy victim was an irresponsible one, and therefore guiltless, or that it was truly a case of voluntary, conscious self-murder, with all its appalling guilt and tremendous consequences!

I have no doubt that in the average mind, especially the unprofessional mind, there is a strong conviction that suicide is very generally—if not always—the result of an insane impulse; that no person in his, or her, sober senses could possibly commit such a terrible act as self-destruction; and therefore that the act itself is conclusive evidence of insanity. "This doctrine," as has been remarked by another, "popularly finds expression in the verdicts of coroner's juries, who, desirous of respecting the feeling of surviving relatives and friends, usually return the stereotyped verdict of 'suicide while laboring under temporary aberration of mind.'" Indeed, are we not told on the highest authority that "All that a man hath will he give for his life?" Can it then be supposed that a human being, in a rational state of mind, will voluntarily throw away that which is so precious to him, and rush unbidden into the uncertainties of an unknown world? In a recent discussion on this subject before the New York Medico-legal Society, one of the members, a medical gentleman, maintained very decidedly that suicide is a *disease*, and should, therefore, be regarded as irresponsible.

It will be my purpose in this paper to show that while in many, possibly in the majority of cases, the act of suicide may be traceable to a deranged intellect, still there are instances, not a few, which cannot be explained in this manner; but which must be attributed simply to the firm, deliberate purpose and intention of the individual,—the mind acting throughout in a perfectly rational, intelligent manner, and the will influenced by motives sufficiently cogent to impel to the fatal act.

I would ask your attention to two distinct propositions: First, that suicide is, unquestionably, very often the direct consequence of insanity; and, secondly, that suicide is also frequently to be ascribed to the calm, deliberate determination of a perfectly sane individual. These two propositions, although seeming contradictory and opposite, are not so in reality, as will be seen as we view the subject from different standpoints.

The first of these propositions, viz., that suicide is often directly the result of insanity, is so palpable as scarcely to require proof. Every practitioner of medicine can testify to multitudes of such unhappy cases, the result either of the delirium of acute fever or cerebral inflammation, or of chronic morbid melancholia. Indeed, he well knows that in the last named variety of insanity, the *suicidal propensity*, as it is called, is a symptom demanding the most unwearied watchfulness on the part of the attendants.

It may be as well to notice here that this "suicidal impulse" sometimes displays itself very suddenly, and without any apparent previous warning; whilst at other times it assumes the form of a delusion or hallucination, which, like an invisible spirit, may haunt the unhappy victim for months or years. A well known striking instance of the former is related by Sir C. Bell: "One of the surgeons of the Middlesex Hospital was in the habit of going every morning to be shaved by a barber in the neighborhood, who was known as a steady, industrious man. One morning, the surgeon was conversing with the barber about an attempt at suicide that had recently occurred; and the surgeon observed that the man had not cut his throat in the right place. The barber then inquired casually where the cut should have been made? The surgeon pointed out on his own neck the situation of the carotid artery. The barber, in a few minutes, retired to the back of his shop, and there cut his throat with the razor with which he had been shaving the surgeon. He had wounded the carotid artery in the place indicated by the surgeon, and died before any assistance could be rendered to him." As is properly remarked by the relator, "although this act was quite sudden and unexpected, it may have been only the final result of a delusion which had long existed, concealed from others in the mind of the man—just as the sight of a weapon has often led to its use for the purposes of suicide."

I do not myself believe that this "suicidal impulse"

ever manifests itself suddenly, and for the first time in a person of a perfectly normal mental calibre—like a flash of lightning out of a clear mid-day sky. I cannot but think that if the history of the individual be carefully traced, there will generally be discovered some evidences of antecedent, latent mental aberration, either inherited or acquired.

As regards those cases of "suicidal impulse" of a more chronic nature, such as are so frequently seen in melancholia, I need only to allude to them here, in passing. Of course, there can be no question about all such cases being directly attributable to insanity.

Let us next examine the second proposition, viz., that suicide is not necessarily evidence of insanity, but that cases do occur, not unfrequently, where the act of self-destruction was the result of a calm, deliberate determination, based on sufficient motives, and executed for a special purpose. And here, let me say a word or two about *motive*, as an important factor in determining any case of alleged insanity. If we desire to form a correct estimate of a certain action or line of conduct, we usually endeavor to ascertain the *motives* which prompted thereto. The *motiveless* character of a particular act is generally regarded as strong evidence of a deficiency of mental capacity; and it is constantly urged by counsel before the jury, as a very strong proof of mental unsoundness on the part of a client, whom he is laboring to defend. Unquestionably, there is much truth in this proposition, as far as it goes; but before assenting to it universally, or unconditionally, we should first set about to discover whether under the *apparent* want of motive, there may not have lain, deep down in concealment from every human eye, and scarcely recognizable by the individual himself, a motive, sufficiently powerful *in that particular person*, to instigate to just such a criminal act as the one for which he is now undergoing trial. Professor Casper justly remarks that we are very apt to be misled in our interpretation of criminal acts, by our false notions about the *apparent* want of motive in the criminal. I beg you to notice this point particularly. "It is undoubtedly true that a motive to any deed may exist for one person, under the power of which he is urged on, which would be wholly inoperative in a hundred other cases. To recognize this, however, the inquirer must in every case place himself in the position of the culprit, and divest himself of his own ideas for the time being." There is great force in these words of Casper. This distinguished authority gives us two illustrations of his meaning, taken from the two extremes of social life. One of them, an utterly depraved character, had run a life-long reckless course, and had committed offences for which he had often been imprisoned. This abandoned man is by chance thrown in company with another tramp, who happens to display before his eyes a trifling sum of money—a few coins. The criminal is seized with the desire of possessing this money, and to gratify this desire he will not scruple to murder his fellow. The other instance is that of a young military officer of high birth, and higher spirit, who, while walking in the public park, among a company of ladies and gentlemen, is suddenly assaulted in the grossest manner by a blow in the face, by some low, abusive fellow. Transported with rage beyond endurance, he draws a pistol, and shoots his assailant dead, or runs him through with his sword.

Now, here we have two criminals, each of whom has committed the terrible crime of homicide; and how are we to interpret these different acts? On their trial, their counsel might probably urge the plea of temporary insanity, based upon the want of sufficient motive for the commission of so grave an offence, under such apparently insufficient inducement. And doubtless, had these two culprits exchanged places, the *motive* actuating each would have changed also, and the result would not have been so tragic. "For," as he remarks, "it need hardly be supposed that the young, educated officer would have been tempted to commit murder merely to obtain possession of a few insignificant coins; nor, on the other hand, that the first-mentioned criminal would have possessed so touchy a sense of honor, as not to be able to cool his wrath, and satisfy it with his fists alone, without deeming it necessary to kill his antagonist."

These illustrations, although pertaining to homicide, are equally applicable to cases of suicide. Let us not, then, be too hasty in ignoring the existence of *motive* in cases of criminal nature, whether of homicide or suicide, even though we ourselves may not be able to fathom that motive in the other, nor indeed even to conceive of its existence. I think I am perfectly safe in assuming that we may regard the presence or absence of motive—of *real* motive—as the pivot, so to speak, on which will hinge the decision as to whether any one particular act of suicide was, or was not, the result of insanity. You will observe, I say, the existence of *real* motive. It is not necessary that it should be such a motive as would influence you or me, *in our present circumstances;* but a motive sufficiently constraining *under the particular circumstance in which the individual was placed in that special crisis of his life.*

To take a very common and familiar illustration: A person in good social position, who has always enjoyed the confidence and respect of the community, has for years been secretly defrauding his employer, or his wards, of large sums of money, until concealment is no longer possible, and the terrible revelation is about to be made of the utter financial ruin of his unsuspecting victims. He foresees the near approach of the crisis which he too well knows must unmask his hypocrisy, and expose him to the just indignation of the world, and drag him down to the felon's doom. Shall he quietly wait for the avenging sword to fall upon his devoted head, or shall he not rather save himself from the dreadful exposure, with all its awful consequences, by a swift but deliberate act of self-destruction? Now try this case by our touchstone of *motive*. Will any one say that there was not motive sufficient here to account for the suicide? There was no hallucination, nor delusion of mind interfering with the man's reasoning processes, or preventing the free exercise of his volition. The motive was based on a reality, on a real estimate of his position and its consequences. Of the two great evils, loss of honor or loss of life, he deliberately chose what he considered the less, and so died by his own hand. Certainly we cannot ascribe such a suicide to insanity! Do any of us believe for a moment, that the anarchists of Chicago, who have so lately met their doom, would not gladly have forestalled their well-merited execution by a dynamite or other suicide, if only the means had been granted them,—as in truth it was in one instance? And in precisely the same category would I place those cases of self-destruction following loss of honor, loss of property, loss of employment, mortified

pride, disappointed love, disappointed ambition, remorse, and other kindred causes. Take away from the wretched ones of earth all belief in the existence of God, and of a future state of retribution, and what, I ask, is to hinder them from putting a speedy end to all their sorrows and disappointments?

I know very well that some will urge that all such individuals have been driven into temporary insanity by their various sorrows, disappointments, losses and afflictions; and that the suicidal act was committed while under this temporary insane delusion. The reply to this apparently valid, though really specious, objection is, that it is "begging the question" to assume the very thing required to be proved. Such a line of argument would equally excuse any, and every act of violence inflicted upon another, upon a similar plea of insanity.

It may not, perhaps, be amiss to fortify this second proposition, that suicide is frequently *not* the result of insanity, by an appeal to history, ancient and modern, sacred and profane. It is well known that in the highest civilization of ancient Greece and Rome, the Stoic and Epicurean philosophy maintained not only the lawfulness of suicide, but openly taught that it was preferable to great pain and disgrace; and in accordance with this universally prevalent doctrine, the wisest and most illustrious men of that age killed themselves, rather than be dishonored, or suffer pain. Thus Zeno, the founder of the Stoics, hanged himself, in his ninety-eighth year, rather than endure the pain and inconvenience of a dislocated joint. The generals, Mithridates, Hannibal, Themistocles, Mark Antony, Brutus and Cassius, all sought a similar death, after being defeated in battle. Demosthenes, Cato of Utica, Seneca and Cleopatra believed in suicide, and practised it.

Sacred history affords us many examples of voluntary self-destruction in the persons of king Saul of Israel; of the mighty Samson; of Ahithophel, king David's trusted counsellor; and of the traitor Judas. No one, for a moment, would think of ascribing any of the above instances of suicide to insanity. Certainly, those concerned, comprising philosophers, statesmen, generals and commoners, were persons of no mean order of intelligence.

In more modern times, there have not been wanting persons of brilliant intellect, though of sceptical belief, who have openly advocated both the lawfulness, and the desirableness of suicide; among whom I may mention Rousseau, Gibbon, Hume, Mme. de Stäel, Montaigne and Montesquieu. However we may condemn the doctrines of these people, we cannot surely ascribe their false opinions to any want of intellect, since we well know that they shone as stars of the first magnitude in the literary and social circles of the age.

Even in our own time, in some of the Oriental countries, the practice of self-immolation still prevails to a certain extent. The custom of the Hindoo widow burning herself upon the funeral-pyre of her husband, I believe still lingers in certain parts of India; and the singular custom of *hari-kari* is scarcely yet abolished in Japan.

The benignant influence of the Christian religion, as it gradually spread over the world, had the effect of working a radical change in the popular sentiment as regards suicide. The old heathenish notion of its lawfulness was abandoned, and the practice came to be regarded as a *crime* of the first magnitude, and to be punished as such by the laws of the country. Indeed, so severe were the penalties annexed to this crime, as visited upon the person, the effects, and even the family of the *felo-de-se*, that a recoil of popular feeling took place against the barbarous and revolting laws of that age; and, as a consequence, the attempt was made, and gradually obtained a foothold, to ascribe such cases to the action of a disordered intellect, so as thus to avoid the imputation of crime.

The laws of the Church at this period were equally severe against the practice of suicide—regarding it as a crime of the highest magnitude, and refusing Christian burial to the bodies, and Christian consolation to the souls, of suicides.

Now, you will observe, that this very fact of suicide being regarded by the laws both of the Church and State as a *crime*, and to be punished accordingly, is a conclusive proof that these laws did not consider it as originating in insanity; otherwise such laws would be most monstrous and inhuman, inasmuch as insanity necessarily precludes all idea of responsibility. In England, scarce half a century has elapsed since the bodies of suicides were denied the right of Christian burial; and up to that same period the old practice still prevailed of burying the body of the suicide at the cross-roads, and thrusting a stake through it, in order to show the public detestation of the crime.

At the present day, this question of "the relation of suicide to insanity" most frequently presents itself in cases of life insurance, where there is a dispute about the payment of the policy to the heirs of the deceased, on the ground of his alleged death by suicide; and it very often occasions no little difficulty to the courts. Until within a few years past, it was the general practice of life insurance companies to insert in their policies a saving clause, exonerating them from payment in case the death of the assured was caused by his own hand; and making no distinction between a sane and an insane suicide. This was manifestly both unjust and unlawful, so far as the *insane* act of self-destruction is concerned; for most certainly, an individual should be held no more responsible for the loss of his life, whether he takes it by his own hand when impelled by the delusions of melancholia, or under the ravings of the delirium of a fever, or of cerebral inflammation, than if he dies from an ordinary disease, or from an accident. If, on the other hand, it can be clearly shown that the assured, after placing enormous amounts of insurance money upon his life, in various offices, and making only one or two payments of the premiums, had put an end to his own life, in a perfectly intelligent manner, and evidently with the intent and design of benefiting others—and especially his own family—pecuniarily, by his death, then the question assumes altogether a different aspect. Neither justice nor equity could plead in his favor, in such a case. Undoubtedly, under such circumstances, the company should be exempted from payment, unless it can be clearly demonstrated that the individual was insane at the time when the act was committed.

I might detail many such cases, of considerable interest, to you, but I will be content with a bare allusion to two instances, both of them of very recent occurrence, and both remarkable for the large amounts of money involved. The one is the celebrated Dwight case, which occurred about two years ago at Binghamton, N. Y., involving several hundred thousand dollars of insurance money, in

various offices. This case has been tried in the different courts, and we now hear that it has been recently compromised. The other case is that of Tyler, of Norwalk, Conn., which occurred within the present year. This man, having spent a fortune in profligate living, applied within the space of six months for an aggregate sum of $400,000 of insurance on his life, having previously announced his intention to effect this large insurance for the benefit of his various creditors, and then to kill himself. By false statements to the offices to which he made application, he succeeded in his design. He then writes to his mother of his intention to take his life; after which, he comes to Philadelphia; from which city he again communicates to a friend his suicidal purpose, under an assumed name; and, finally, he returns to Norwalk, and is found in the morning dead in his bed, from an overdose of morphine, leaving a memorandum upon his table. The majority of the insurance companies, I am informed, are defending their cases in the courts upon various grounds—amongst others, on that of conspiracy between the deceased and the creditors.

In each of the above cases, to which I have made brief allusion, there are certainly very strong reasons to suspect voluntary suicide to have been the true cause of death; and that, too, without the slightest suspicion of insanity on the part of the deceased.

You will notice a most significant fact in these, and in analogous cases, viz., that the insurance on the life of the person had been but lately effected, and usually for a considerable amount, and in various offices; and, further, that only one or two premiums had been paid before the suicidal death occurred.

Now, I do not think that we need be much surprised at such occurrences. Why should not such an individual, pressed down by the burden of some enormous debt, which he has been vainly hoping to pay, (if restrained by no belief in, or dread of, a future judgment)—why, I say, should he *not* embrace the tempting offer to insure his life for an amount which will not only repay his indebtedness, and rescue his name from dishonor, but at the same time save from poverty and want those whom he loves better than himself? Try this case, again, by the touchstone of "motive." Why should not the spirit of self-sacrifice be as dominant in such a one, as in any of the cases that we have just been considering?

To quote the words of another: "The pelican which picks its own bleeding breast to nourish its savage young, has been adopted as the symbol and title of one of the largest life offices of Great Britain; and who shall speak other than reverently of that played-out rake, who took his own life, after liberally insuring it, in order, as he said, to enable his widow to start again with a younger and more vigorous man?" Remember, I beg you, my simple object, in this line of argument, is not to enter a plea for the lawfulness of suicide, but simply to demonstrate that in none of such cases can the plea of insanity be urged as the true cause of the self-destruction.

Remember, moreover, that insanity alone is not by any means an all-sufficient excuse, in the eye of the law, for the commission of suicide, in a life-insurance case; but it must be proved that the suicide was not an *intelligent* act, and that it was produced by an insane impulse or delusion, which it was out of the power of the deceased to resist. The point at issue is—did the assured intend *freely* and *intelligently*, to destroy himself?—*intelligently*, *i.e.*, with his mind at the time unswayed by insane delusion? I pray you to observe the very important distinction between doing a thing *intentionally*, and doing it *intelligently*. The insane man, equally with the sane one, commits the act of self-destruction intentionally or knowingly, with the full purpose in view of terminating his existence; but he does not do it *intelligently*, with his mind in its normal equipoise, and "unswayed by an insane delusion."

A recent writer on this subject, the Hon. O. H. Palmer, of New York, to whom I am indebted for some of the points already noticed, says: "My experience for the past five years in the investigations of cases of suicide, has forced upon my mind the conclusion that but a comparatively small number of suicides, even in this country, is attributable to insanity."

I will close this paper with the mention of a few interesting statistics, connected with the subject of suicide.[1]

It appears that suicide occurs much more frequently among men than women: in England the proportion being about 2½ to 1; and in France about 4 to 1. According to Brierre de Boismont, more than 100,000 Frenchmen have committed suicide since the beginning of the present century; the statistics for the single year 1876 show the number for that year to have been 5567, of whom 4435 were men, and 1132 women. Twenty-nine were men under 16 years; and ninety-eight over 80 years. In both countries, the numbers increased notably with the age. Thus, in France the number under 16 years amounted to one per cent.; between 30 and 40 years, to fourteen per cent.; between 50 and 60 years, to twenty per cent.; and over 60 years, to thirty per cent.

As regards *locality*, in both countries the proportion of suicidal deaths is vastly greater in the cities than in the rural districts. In the Department of the Seine (which includes the city of Paris) they amounted to one-sixth of the whole number.

As respects *occupations*, the statistics of the two countries show a considerable difference. In France, agricultural occupations represent 23 per cent.; laborers and mechanics, 28 per cent.; merchants, property owners and professional men, 12 to 13 per cent.; personal servants, 9 per cent. In England, the mortality from suicide was greatest among soldiers; and was higher among the educated classes than among those exposed to rough, out-of-door pursuits.

As regards the *manner of death*, in both countries hanging appeared to be the favorite method adopted; next come drowning, shooting, and poison. Military and naval men, and members of the legal and clerical professions seem to prefer death by firearms, whilst physicians, dentists, chemists, and photographers appear to select some one of the many poisons with which they are familiar. Women usually show a preference for drowning, or poison.[2]

Finally, as respects the different *causes* leading to suicide: in France, 25 per cent. are set down to illness and physical suffering; 31 per cent. are credited to in-

[1] These have been derived mostly from a paper by Dr. John G. Lee, of this city, published in the Philadelphia Medical Times, June 12, 1886.

[2] The statistics of the 98 suicidal deaths in the city of Philadelphia for the year 1887 indicate a preference for poison. The suicides are, poison, 27; hanging, 23; firearms, 21; the knife, 11 drowning, 7; other modes, 9.

sanity; 15 per cent. to family troubles; 16 per cent. are ascribed to dissipation and misconduct; 11 per cent. were directly traceable to alcoholism; 13 per cent. to financial embarrassment and poverty. In the above statement, it is worthy of note, as appertaining directly to the special subject of the present paper, that only 31 per cent. of the whole number of suicides—less than one-third—are credited to insanity.

ORIGINAL ARTICLES.

TUMORS OF THE CHOROID PLEXUS IN THE NEIGHBORHOOD OF THE FORAMEN OF MONRO.

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THE presence in the choroid plexuses of the cerebral ventricles of small, cyst-like bodies in greater or less numbers, with semifluid or gelatinous stroma, and containing minute concretions of phosphate and carbonate of lime, with, not infrequently, cholesterine, is a very familiar fact. When found during the examination of a brain they are usually noted as a matter of routine, but seldom have any clinical significance attached to them. They are probably more frequent in brains which have been subject to frequent congestions, but even this supposition is not well established. Tumors of other kinds are less common, although nearly every variety has been met with.

Any tumor of the choroid plexus, if growing sufficiently large—which, however, these cysts or myxomata rarely do—may of course, like any other tumor of the brain, produce, by its direct pressure, localized symptoms. In a very few instances, however, one of which has given the occasion for this article, one of these usually harmless growths, not of large size, has been found so situated as to give rise to fatal results, not by direct pressure upon the cerebral substance, but from its influence upon the accumulation of fluid in the ventricles, so that we have an acute internal hydrocephalus, to be distinguished, on the one hand, from the ordinary internal hydrocephalus, usually chronic, and either congenital or acquired soon after birth; and, on the other, from ordinary acute hydrocephalus, chiefly external, which means tubercular meningitis. The situation especially adapted to produce this result is in the foramen of Monro, where the choroid plexuses of the two lateral ventricles become continuous with each other through the upper branches of the Y-shaped foramen, and where a small, round tumor may completely occlude the lower branch leading to the third ventricle.

Tumors in other portions of the choroid plexus, however, are apt to be accompanied, in chronic cases, by a certain accumulation of fluid secretion, resulting, according to the situation, from obstruction of the circulation, and in part very possibly from a pathological condition of over-activity of the secreting surfaces of the plexus and the ependyma. There are cases where choroidal tumors in the third ventricle, but somewhat posterior to the locality described, have produced a similar result, in addition to the effects of a direct pressure upon the ganglia underneath (optic thalami and lenticular nuclei). Pressure upon the venæ Galeni running along the roof of the third ventricle has apparently the same results in the production of hydrocephalus as venous obstruction elsewhere has in producing ascites, for example. It is not certain to what extent the choroid plexuses, and in fact the ependyma of the ventricles, are to be looked upon as true secreting structures in normal conditions, though it is clear that, pathologically, they may, like the peritoneum, pleura, or synovial membranes, pour out an excess of fluid.

Two theories, which do not, however, exclude each other, may be suggested to account for a large accumulation of approximately normal fluid in large quantity: first, that the ventricles, including the choroid plexuses—which are evidently, from their structure, fitted to be not only temporary reservoirs of blood, but for straining off some of its fluid and saline constituents—constantly pour out a fluid which passes through the foramen of Monro to the third, through the aqueduct of Sylvius (*iter a tertio ad quartum ventriculum*) to the fourth, and then through the foramen of Magendie to the subarachnoid spaces, where it is brought into connection with the general lymphatic system and absorbed. The existence of this last foramen has been doubted or denied by Kölliker and others, but seems to be established by the researches of Luschka and Key and Retzius. The second theory is that it does not circulate in a constant direction, but is subject to fluctuations in either direction through the passages just named, according to the local variations in the amount of blood contained in the cerebral vessels.

Upon either hypothesis it is easy to see how a tumor in the position described leads to an accumulation of fluid in the two lateral ventricles; on the first, simply obstructing the discharge of secretion, and on the second, acting as a ball-valve to admit an upward flow and prevent its return.

An accumulation of fluid in the lateral ventricles is more peculiarly fitted to produce a general and equalized pressure upon the cerebral hemispheres, while sparing to some extent the cerebellum, mesocephalon, and great ganglia, than almost any other condition, except hemorrhage in the same region acting from within, or a meningeal hemorrhage or inflammation distributed with more than usual even-

ness over the surface; and we can, therefore, look upon it as presenting the purest possible type of cerebral compression.

Schnopfhagen (*Stzber. d. Wiener Akad.*, Bd. 73–74, p. 447) says, that the choroidal cysts are especially frequent from the glomus forward to the foramen of Monro, and that another favorite place is on the under surface of the tela choroidea media—that is, the roof of the third ventricle—corresponding to the venæ internæ cerebri which open into the venæ Galeni.

The following cases are only those where a tumor was situated in the exact region first described—that is, the lower branch of the foramen of Monro, or in the third ventricle a little further back, where, if it be at all closely applied to the walls, the effect is essentially the same in the production of ventricular effusion plus more or less local irritation. I have not added to them the other cases—somewhat more numerous, though by no means common—of tumors situated in one of the lateral or the fourth ventricle, where the symptoms are apt to be of another character, though often including hydrocephalus. These may be found in a paper by Audry, in the *Revue de Médecine*, November, 1860, p. 807.

Of the first set (foraminal) I find only two: one by Förster (*Wurzburger med. Zeitschr.*, 1864, p. 39), and the other reported here for the first time.

CASE I.—Girl, aged twenty. Had had headaches for a long time, and attacks of vertigo. She died suddenly of apoplexy. At the autopsy the ventricles were found moderately enlarged, filled with clear water, and a growth in the median line of the choroid plexus which had evidently caused the hydrocephalus. The growth was in the middle ventricle, directly at and in part in the much enlarged foramen of Monro. It was firmly situated in the tissue of the median choroid plexus, which partly entered it and partly spread about it. It was roundish, eight lines by six, well defined, smooth like connective tissue, with mucous, almost fluid substance. There were no other remarkable changes in the body.

CASE II.—Mr. B., a man in early middle life was a patient of Dr. Fifield, of Boston, and was seen by the late Professor Ellis, who also made the autopsy and from whose notes and my own recollection I can give the following history: He had generally been very well, though subject to sick headaches, had bilious attacks, but no severe attack of the kind for two years. Had recently been overworked in his business. March 30th he came home saying they didn't know how his head felt, and he should be crazy if he kept on. The next day he returned to business and seemed about as usual. April 1st he went to church, ate heartily of roast veal and walked in the afternoon. At night complained again, had sickness of the stomach, lay on the lounge all the evening. The next day went to town, ate beefsteak for dinner, but about six o'clock came home and threw himself upon the bed with his overcoat on; didn't feel that he could undress. His feet were cold, he was sick all night and vomited.

At half-past seven the next morning he did not seem stupid, but about nine he seemed to be so. He gradually grew heavier until noon, seemed bewildered, soon became perfectly stupid and continued so. At eleven it was noticed that the right pupil was dilated and the left contracted. At one he could be roused by shouting; his arms were closed, resisting extension. About four ounces of urine were drawn and contained no albumen, sp. gr. 1.038, alkaline. Pulse 64, of good character; respiration easy and normal; temperature 101° in the mouth. He died at two. The rapid change at the last was somewhat unexpected.

At the autopsy the convolutions were found dry and flattened. In the lateral ventricles were six ounces of clear serum. In the choroid plexus, and directly in the foramen of Monro was a soft, grayish rounded tumor, partly of gelatinous character, which broke easily and contained many granules and imperfect cells. The dilatation of the ventricles in this case was very remarkable. After the fluid had escaped they retained their size and form and looked as if dug out of a solid substance.

In the second set of cases there are also two, one reported by Dr. J. Stedman (*Boston Medical and Surgical Journal*, 1883, cix. p. 135), and the second by Wallmann (Virchow's *Archiv*, 14, p. 385).

CASE III.—An architect, aged twenty-eight. Has never been very robust; while in college was thrown from a horse, but remounted, and rode two miles without difficulty; had no unpleasant after-effects. For the last year has had occasional severe headaches, and once called things by the wrong names. March 3d he appeared well, worked during the day, and dined with a good appetite. At four o'clock the next morning had a severe attack of headache, for which he took thirty drops of laudanum, repeated in an hour. The headache increasing, he was seen by the doctor, who gave four drachms of ether by inhalation, which quieted the patient and gave natural sleep at eleven o'clock. When seen at half-past twelve he was found to be dead, but this had happened so quietly that those in the room did not know it.

The autopsy by Dr. Fitz showed the cerebral substance anæmic and dry. Lateral ventricles distended with a clear, watery fluid, and one-third larger than normal size. A gray gelatinous tumor, the size of a filbert, was found upon the velum interpositum in the median line, behind the fifth ventricle in the region of the anterior commissure, on a level with the junction of the corpora striata and the optic thalami. The tumor was easily removed from its surroundings, and on examination proved to be cystic with gelatinous colloid contents.

CASE IV.—A man fifty years old, a drinker, had bad nutrition, a very slow and uncertain gait, dull and slow speech, and diminished intelligence. There were involuntary discharges from the rectum and bladder, this symptom developing rapidly without

known cause. This paretic condition of the sacral plexus increasing, his lower extremities were finally completely paralyzed. There were increasing mental dulness and a final facial erysipelas.

The lateral ventricles were much distended with a watery serous fluid. The lower and middle horns were very roomy. In the right choroid plexus was a soft, yellowish-white, lobulated growth as large as a bean, which was a lipoma. The upper surface of the thalami optici was much flattened and the two thalami optici pressed away from each other. The fornix was more than an inch wide and pushed upward toward the septum ventriculorum in the form of a convex growth. Beneath the fornix was an oval thick-walled bladder, as large as a walnut, 3.2 inches long, 1.6 inches wide, which arose with its posterior end from the median choroid plexus and was connected with the pia by a delicate membrane and also with the membrane-like distended posterior commissure. The rest of the growth was mostly free. The contents were gum-like and a tenacious, fluid, yellowish-brown mass. The base of the third ventricle was thinned and delicate.

By comparing the first three of these four cases, where the lesion was of the simplest possible character, and probably produced little if any effect by its pressure upon the nervous structures, we find that a uniform and general pressure upon the cerebral hemispheres exerted by the accumulation of fluid in their interior, and rendering them anæmic, gives rise to no local paralytic symptoms, and to but little irritation, but to headache, gradually increasing somnolence rather than coma, and rapid and quiet death.

These symptoms closely resemble those of ingravescent apoplexy resulting from a hemorrhage into the ventricles, which gives rise to very much the same sort of pressure. Indeed, if ventricular hemorrhage were likely to occur without being preceded by a more localized lesion, there would be nothing to give a clew to the nature of the fluid causing the dilatation of the ventricles. It is possible that some cases of so-called "serous apoplexy" may have been of the kind described here, and considering the small size and inconspicuous location of the lesion, that it may have been overlooked during a hasty autopsy, especially if by accident the ventricles became drained before the examiner had fairly reached them.

The distinction from some cases of meningeal hemorrhage where the clot is equally distributed upon both sides, so as to give rise to no unilateral paralyses, would not be very marked.

In the fourth case much direct pressure was exerted by the tumor on the surrounding cerebral substance, and the symptoms were accordingly complicated by a progressive paralysis of the lower limbs.

CONGENITAL CLUB-FOOT. ITS TREATMENT BY OPEN INCISION AND IMMEDIATE RECTIFICATION.[1]

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THE results of the ordinary methods of treating club-foot are so disappointing and unsatisfactory that any operative procedure which holds out the probability of removing or overcoming the difficulties encountered by the surgeon should be hailed with delight.

The vast array of mechanical appliances devised and invented, and the great variety of methods recommended by distinguished orthopædic surgeons for the relief of this deformity, are conclusive proof that no easy, certain, and uniformly successful method has as yet been devised. After most carefully planned and skilfully performed tenotomies—after a trial of all the taliverts and boots that have been devised—after a vain attempt to comprehend and grasp the principles of the various mechanical appliances that have been invented—the young surgeon comes at last to the conclusion that anything like a successful method for the treatment of all cases of club-foot is yet to be found.

It is not alone the young surgeon, but as well those of a riper experience who meet with similar disappointments. In a recent address by one of our most distinguished orthopædic surgeons, I find the following expression: "During the past sixteen years, with an unusually large experience in treating this deformity, it has been my good fortune to witness many excellent results, and I am free to confess that I have had my share of failures."

I have no intention of entering at length into a discussion of the various causes of talipes varo-equinus, nor yet of considering all the methods of treatment that from time to time have been practised or recommended, but shall confine myself to a method which has, in my hands, proved of great service in a certain number of obstinate cases, and which is, I think, capable of further extension.

I will, therefore, only make a brief preliminary reference to the factors, pathological and mechanical, which enter into the production of this deformity, so as to be in a better position to estimate the difficulties to be overcome in its successful management. In 1884, Shattock and Parker communicated to the Pathological Society of London an article on the "Etiology and Pathology of Club-foot." Speaking of this report, Mr. Parker says: "Neither of us was prepared to find the nerve-centres, the nerve-trunks, and the muscles of the

[1] Read before the Section on Surgery of the New York Academy of Medicine, December 12, 1887, with presentation of cases.

afflicted limb in a state of absolute histological integrity; neither of us was prepared to find that, after all the soft parts had been entirely removed from the limb, the deformity would persist in just as marked a degree, and in just as intractable a form as previously to the dissection. Yet such was the case."

I shall not stop to consider in detail the etiological factors that have entered into the developmental production of this deformity. In the ordinary process of its evolution, the limb has met with mechanical restraint, whether due to reflex muscular spasm or intra-uterine pressure, and a consequential failure of the foot to pass through its normal rotation, I will not say. It is only necessary for us to remember in the treatment that, independently of the cause, whether spasmodic or mechanical, the limb is maintained in its distorted position by the shortened soft tissues; and while it is true that the bones are deformed, yet they seldom offer a real obstacle to reduction. The muscles, tendons, fasciæ, ligaments, and even the vessels and nerves are altered in length to correspond with the distorted foot and limb. Every tissue contributes its own share in the production of the deformity. If the skin were removed and stuffed, it would still assume the form of the distorted foot. Hence it follows as a corollary of this proposition that every structure entering into the composition of the limb must receive its proportionate share of treatment.

My intention in this paper is not to enter into a detailed description of the various treatments usually applied to talipes, but rather to enforce the surgical deduction drawn from this presentation of pathological facts.

Adams has very truly said: "The scientific treatment of talipes varus can only be accomplished by a judicious combination of the operative, mechanical, and physiological means, while many of the failures are due to the want of this combination of principles."

Numerous operative procedures have been recommended for the purpose of shortening and facilitating the treatment of this deformity. In 1839, Velpeau[1] recommended, first, the division of the tendo-Achillis, and afterward any other tendons which appeared to be tense and prominent, and seemed to interfere with the restoration of the foot. Then, with a powerful instrument for the purpose, he reduced the foot at once to its normal position. Notwithstanding the extensive laceration due to extreme violence, the results of his treatment were far more favorable than one could have anticipated. This method of *brisement forcé* has lately been attended with considerable success in the hands of Bradford, of Boston, and Wolff, of Germany.[2]

[1] Broodhurst. [2] Phillipson: Archiv Chir., February, 1887.

Tarsotomy and tarsectomy have both been strongly advocated by various surgeons, and the latter operation has become so popular that no less than fourteen varieties of this operation have been devised and practised. The writings of Vogt, Lorentz, Besser-Hagen, Roser, Phillipson, and Wolff have demonstrated that tarsectomy alone is inefficient in the reduction of the deformity, owing to the resistance on the inner side of the foot.

In 1883, Vogt showed that after the removal of a cuneiform section on the outer border of the foot, notwithstanding the application of great force, he could not separate the firmly pressed bones so as to bring the foot into its normal position, owing to the strong resistance of the soft parts.

In the article above referred to, Mr. Parker says: "In a not inconsiderable number of cases of club-foot, which I have had the opportunity of dissecting during the past four or five years, mostly in stillborn children at term, but including also three cases in children ranging from six to eighteen months of age, the only constant condition which I have found has been inability to overcome the deformity (even after the removal of the muscles) until some of the ankle and tarsal ligaments have been divided." If it is then true that the short, soft tissues on the inner side of the foot offer the only resistance to the rectification of the deformity, and this I think you will all admit, how shall they best be dealt with.

More than forty years ago, an Edinburgh surgeon laid it down as an axiom in the treatment of this affection, that "whatever structures are tense must be divided." But it was not until 1880, almost in the days of pre-antiseptic surgery, that Dr. A. M. Phelps, with one stroke of the scalpel solved the problem. A report of his first case was published in the *Transactions of the Medical Society of the State of New York* for 1881. In 1884, Dr. Phelps read a paper before the International Medical Congress at Copenhagen, entitled "The Treatment of Talipes Varo-equinus by Open Incision and Fixed Extension," which has not been published in this country.

The open operation has not as yet met with the recognition which it deserves. Its reception in Europe has been more favorable than in America. In a recent conversation with Dr. Macewen, of Glasgow, he told the writer that his method of treating obstinate club-foot was either by open incision or tarsectomy. While in Halle, a few months since, Prof. Volkmann showed me several cases which he had treated in this manner. In Schede's clinic at Hamburg the "Phelphsische operation" has become the universal method of treating obstinate cases of club-foot, and Lorentz has recently recommended a modification of this operation by a circular incision around the lower

border of the internal malleolus, dividing the deltoid ligament.

The treatment of club-foot by open incision and immediate rectification is exercised on the principle of putting the foot in as good a position as it can be made to assume, with the aid of whatever operative procedures are necessary, and fixing it by means of a plaster bandage until the limb has become accustomed to its new position. At the expiration of six weeks or more the plaster is removed, the foot is again fully rectified and fixed in its improved position for another six weeks, and so on until all tendency to relapse is overcome. The manner in which the plaster dressing is applied should receive special attention, it is to be used not as a correcting force but as a fixation splint. This plan of treatment is not new in principle, but it is the manner of carrying it out that is claimed to be especially advantageous.

The method of my preceptor, the late Dr. Joseph C. Hutchison, was "to apply the plaster of Paris and after applying it, twist the foot round in a straight position and hold it there until the plaster sets. After a week it should be taken off and the foot twisted still further, until you finally get it perfectly straight." This plan I have tried and given up; it is tedious, difficult, and it does not answer its intended purpose. The mode of treatment about to be described will meet every indication and is calculated to supersede all other methods.

A description of the treatment of club-foot will be facilitated by a division of the deformity into the following three classes:

1. Those which can be easily reduced by manipulation.

2. Cases where there are contractures of fasciæ and tendons.

3. Cases where all the tissues are greatly shortened.

It is a common observation that certain cases of club-foot in young children, when handled and manipulated, can easily be placed in a normal position; whereas in other cases in which the deformity is less marked, little can be effected without the aid of the knife. It is only in this first class of cases that manipulation and fixation will lead to a permanent result. In the great majority of cases it is but a waste of time to attempt to treat the deformity without division, at least, of the tendo-Achillis and plantar fascia.

It has been my practice, previous to any operative interference whatever, to subject the foot to a thorough process of manipulation and in this way discover the amount of resistance that it is necessary to overcome with the knife, and at the same time eliminate all fibrous bands and adhesions that readily yield to the force of the hand. All who have had much experience in the treatment of talipes must have observed, that even in the infant under chloroform the clubbed foot, when pressed by the hand or other force, into the best position it can be made to assume, immediately on removal of the pressure springs back into its abnormal position. It is, however, possible by a few minutes' manipulation and pressure so to overcome the resiliency of the tissues, that the foot does not so readily spring back into its old position. If the foot be grasped by both hands of the surgeon and gradually but persistently unfolded and twisted into a normal position, at first it gradually yields and becomes improved in position, but soon the shortened structures on the inner side of the foot become tense and refuse to yield, it now becomes a contest between the muscles of the surgeon and the resistance of the deformed tissues. If the force be steadily continued and even increased, not by fits and starts, but continuously and persistently the soft tissues still further yield, the bony surfaces glide on each other, and the foot assumes a position more nearly approaching the normal than would been thought possible. If at any time during this operation there seems to be danger of fracturing the bones, the force used should be intermitted but not entirely let up. If the operation is well performed, at the expiration of ten minutes or so the elasticity of the tissues seems to be exhausted and the foot lies limp and flaccid, without that tendency to spring back which it had previously possessed. More can be accomplished in ten minutes by manipulation in this way than by ten weeks of plaster dressing according to the old method.

It must be remembered, however, that only the simplest cases can be successfully treated without operation, but this preliminary manipulation should form a part of the treatment of club-foot in all its various degrees. Most cases will require at least division of the tendo-Achillis and plantar fascia, and the general rigidity of the foot should be the guide in determining the further extent to which the tendons, fasciæ, and ligaments need division.

Whenever the tense structures on the inner side of the foot prevent its unfolding and rectification, owing to their short condition, they should unhesitatingly be divided by open incision. In this way the time necessary to a cure is shortened, the tendency to relapse is diminished, and the treatment of congenital talipes is placed on a sound anatomical basis. As Dr. Phelps puts it: "More can be done with a scalpel or tenotome in five minutes than can be accomplished in weeks and often months by all the mechanical appliances known to surgery."

In the second and third classes of cases operative procedures are always necessary. As Dr. Lewis Sayre well says, "contractured tissues cannot be stretched."

The distinction between these two classes of cases should be left to the judgment of the surgeon.

It should be our aim to produce rectification of

the deformity with as little operative procedure as possible. In many cases the subcutaneous division of the plantar fascia together with one or more tendons will be all that is necessary, and after their division the distortion can be reduced. But if after subcutaneous division of these structures the foot cannot be replaced, it is better to perform the open operation and divide the tendon of the tibialis posticus, the internal lateral ligament, and all other tissues which offer resistance to the complete redressment of the foot, if necessary, extending the incision to a linear section of the astragalus and other bones of the tarsus.

Operation.—The method of operation is as follows: thorough antiseptic precautions being observed, so as to secure organization of the blood-clot according to the Morris-Schede method. The foot is rendered bloodless by means of an Esmarch bandage. First, the tendo-Achillis is divided subcutaneously, and the foot thoroughly flexed, so as to overcome the equinus. Then an imaginary line is drawn from the process of the internal malleolus to the tuberosity of the scaphoid bone (Fig. 1). Taking the middle portion of

FIG 1.

Line of incision.

this line, an incision is made downward and slightly backward, across the inner side of the foot, following the direction of the transverse wrinkle for a distance of an inch and a half. The nerve and artery may be protected by being drawn to one side of the wound by means of a blunt hook, which is held in the hand of an assistant. The foot is gradually unfolded, and the shortened and contracted structures are divided as they present themselves and offer resistance to replacement, in the following order: skin, connective tissue, tendons of the tibialis posticus, flexor longus digitorum, abductor hallucis, flexor hallucis longus, together with the internal lateral ligament. A tenotome should then be glided beneath the skin, so as to divide the plantar fascia and the muscular structure of the flexor brevis digitorum. These tissues should be cut by a series of nicks rather than by a prolonged incision. The wound is allowed to fill with coagulated blood, and dressed with Lister's protective, sublimate gauze, and a plaster bandage. The first dressing is allowed to remain four weeks, at the end of which time the wound should be healed.

After-treatment.—After the wound is entirely healed, a water-glass shoe is applied, with which the patient is allowed to walk. The glass shoe, if it does not become wet, retains its shape for six to twelve weeks.

Hausmann, of Hamburg, recommends for the after-treatment a shoe which is made as follows: the toes are thoroughly padded with cotton-wool, then the foot is covered with a woollen stocking. A strip of tin one inch in width is applied along the dorsum of the foot, in order to protect the skin when the shoe is cut off. A sole formed of stiff pasteboard is fitted to the foot, and over this another stocking is fitted. A plaster bandage one and a half inches in width is then applied to the foot, so as to form a shoe extending up to the ankle-joint. While still moist, the plaster cast is cut down the dorsum and sprung off. The shoe thus formed is thoroughly dried in an oven, and covered with leather, so as to make a shoe which can be laced up and removed from time to time.

The following cases, which I introduce to the Section, well illustrate what may be accomplished by this operation.

CASE I.—Willie C., two and a half years of age, first brought to me on the 21st of March, 1887. The parent stated that when the child was born the feet were markedly deformed and without heels. He was immediately placed under the care of a physician, who put the feet in tin splints, and was thus treated for a period of ten months, but without any material benefit. He was then taken to an orthopædic institution in New York, where the heels were operated upon and a pair of braces applied; with these he was treated, the mother said "tortured," for a period of eighteen months.

When first presented, the feet exhibited a very severe form of talipes varo-equinus, which was further aggravated by inward rotation, or rather hyper-inverted position of the limbs, with slight bowing of the tibiæ. The child walked on the dorsal surface of the feet, where several well-marked bunions had formed. The condition before and after operation is well represented in Figs. 2 and 3.

By firmly grasping the foot and exerting for a few minutes considerable force the position could be somewhat improved, but on relaxing the grasp it immediately sprung back into its distorted position. Phelps's operation was performed on March 26th, assisted by Drs. M. D. Jones and C. A. Canfield.

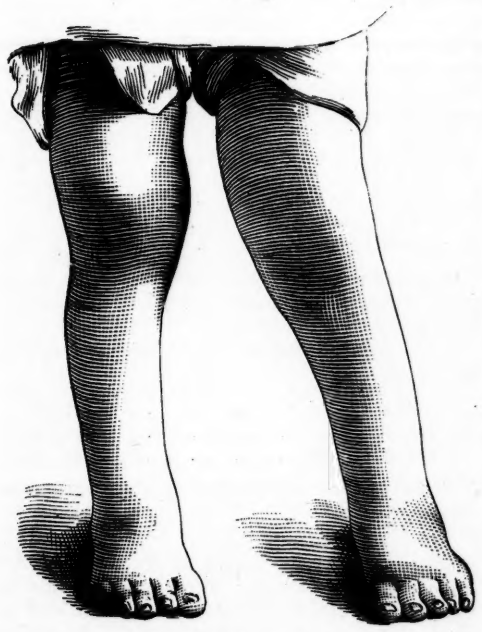
Division of tendo-Achillis and rectification of equinus. Open incision and division of all the contracted structures. In one foot I also made a linear section of one

FIG. 2.

Before operation.

of the bones of the tarsus. The foot was placed in the reverse position and dressed with protective bichloride gauze and plaster bandage. No constitutional disturbance whatever followed the operation.

FIG. 3.



After operation.

May 10. Dressings removed, foot in good position, wounds not entirely healed.

17th. Feet redressed, wounds entirely healed. Up to the present time the water-glass splint has been applied three times, and for several weeks during the summer they were without any support whatever. At present the feet show good size, shape, and function. The inversion of the tibiæ still exists.

CASE II. (Case presented.)—Tommy S., aged five years, was brought to the hospital May 5, 1887. He presented a well-marked example of double equino-varus, which was congenital. According to the mother's statement, when nine months old he was operated upon by a surgeon who cut both tendo-Achillis. At first he was treated with plaster splints, but during most of the time has worn braces, which have been changed from time to time as the feet increased in size, but with little improvement. Thus during a period of four years he has undergone constant treatment at the hands of a distinguished orthopædic surgeon in one of the Brooklyn dispensaries.

State on examination.—The feet were rigid, inverted, and the inner side very much shortened. The use of the braces had produced large bunions and excoriations on several of the prominent parts of the limbs.

Operation May 6, 1887. Under an anæsthetic and assisted by Drs. M. D. Jones and A. M. Phelps—the latter had recently removed to New York—I divided subcutaneously the tendo-Achillis and by open incision all the tense structures on the inner side of both feet. After dressing, the feet were put into Phelps's machine and the plaster moulded into position.

June 2. Dressed, wounds healed and feet in good position. Patient has continued to wear the water-glass shoe with the exception of a few weeks while at the seaside during the summer.

October 20. Fixed shoe applied; good size, shape and function of feet.

I am much indebted to Dr. Phelps for treatment of this case during an absence in Europe.

When we consider that during a period of eight months these cases have been seen by the surgeon, at most only five or six times, I think we may very properly ask ourselves, is there any other operative procedure that will produce as good a result as is shown by these cases, with the same expenditure of time and trouble on the part of the surgeon? I cannot more appropriately close this paper than by quoting the words of Professor Gibney, used in a recent address: "I would have the conclusion drawn that the successful management of this deformity depends upon the close study of individual cases, on a clear anatomical diagnosis, and on a faithful adherence to whatever method is adopted, recognizing and fully appreciating the difficulty in securing at all times the hearty coöperation of the parents. I would have a conclusion drawn that that method should be adopted which depends the least upon this coöperation for success."

HOSPITAL NOTES.

JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA.

A CASE OF HYSTERICAL TRISMUS.

Reported by ORVILLE HORWITZ, B.S., M.D.,
CHIEF OF THE OUTDOOR SURGICAL DEPARTMENT, AND DEMONSTRATOR OF ANATOMY IN JEFFERSON MEDICAL COLLEGE.

The patient, who was a thin, nervous woman, aged twenty-three years, by occupation seamstress, when brought to the hospital was suffering from trismus, presumed by her attending physician to be due to inflammation of the temporo-maxillary articulation with the resulting formation of artificial bands, a sequence of tonsillitis.

Five months previous to presenting herself she had an attack of acute tonsillitis, which ran the usual course, but was followed by rigidity of the temporo-maxillary joint; the upper and lower jaw being separable to the extent of about one-quarter of an inch. This condition continued until she applied for treatment. She had subsisted entirely upon liquid food, and consequently was weak and emaciated. Owing to her presumed inability to open the mouth, the tonsils and fauces could not be examined.

After careful examination of the case, the writer arrived at the conclusion that it was one of hysteria. The patient was told that if she would allow herself to be placed under the influence of an anæsthetic a slight operation would be performed whereby she would be completely cured; to this she cheerfully consented. As soon as she lost consciousness the mouth opened, and, on examination, the throat was found to be in a normal condition. A mouth-gag was inserted and allowed to remain until the effects of the ether had worn off, that the patient might see that the jaws had been completely separated. When consciousness was fully restored, she opened and shut her mouth without difficulty.

A tonic was prescribed, and she left the hospital with expressions of gratitude for the relief that had been afforded her.

MEDICAL PROGRESS.

The Treatment of Retained Placenta at the Rotunda Hospital, Dublin.—In the *Practitioner* for December, 1887, DR. LANE describes the method pursued at the Rotunda Maternity as follows: When the placenta is adherent I believe the proper treatment is to pass the hand or fingers into the uterus and detach it, although I have been informed that some Continental obstetricians allow the placenta in such cases to remain for even a month after delivery (unless there is hemorrhage or symptoms of septicæmia), especially in the cases where the patients have not come to their full time. I consider, however, that if the operator's hands be not perfectly aseptic, this is the most dangerous of all operations met with in midwifery practice, except the Cæsarean section. It has been recommended by some authorities to keep the fingers inside the membranes during the operation, but there are many cases met with where, owing to the friable nature of the placenta, necessitating the removal of small pieces at a time, this is impossible. Should there be any septic infection about the hand, and especially about the nails, the usual seat of such poison, I failed to see how such a patient can escape becoming infected; for it is analogous to vaccination, except that virulent poison is substituted for healthy lymph, and with unfortunately greater likelihood of its taking effect, owing probably to the prolonged contact. The uterus, except where it has been already douched out with the hope of getting the placenta away, as I have already mentioned, is always douched with antiseptic solution prior to introducing the hand. Although the left hand is recommended by many as being smaller and corresponding more with the pelvic curve, the right hand is the one generally used, for, the patient being in the obstetrical position usual in this country, the fundus of the uterus can be better and more easily supported by the left hand (the operator standing at the patient's back). Nor can an assistant, no matter how experienced he may be, support the uterus so satisfactorily as the operator himself, who knows the exact part of the uterus requiring pressure so as to bring that particular part of the uterine wall nearer to the introduced hand, and who is able to remove it to some other part the moment required.

An anæsthetic, usually chloroform, is nearly always administered, in order that, if necessary, the hand may be passed in a second time where doubt exists whether all the placental tissue has been detached; for if the patient be perfectly conscious of what is being done, the operator must be very resolute to be able to withstand her solicitation not to pass the hand a second time, and I consider that, once the hand is introduced, the operation should be persevered in to entire completion. When satisfied on this point, the uterus should be again douched out with antiseptic solution.

The Treatment of Headache Caused by Chronic Pharyngitis.—VERGELY recommends the following application to the throat, by a camel's hair pencil, followed by a gargle of warm, salt water:

Glycerin.,	
Tinct. iodin.,	
Aquæ destill.	āā ♏ 75.
Potass. iodid.,	
Cocain. hydrochlor.	āā gr. 7½.

In general treatment quinine, in 8 grain doses, with 30 grains of potassium bromide, was given. Aconitine or morphia may also be employed.

When anæmia is present the following pill may be used to advantage:

Ferri oxalat.	gr. 1½.
Ext. rhei	gr. ⅓.
Ext. nucis vom.	gr. 1/16.

—*Revue Générale de Clinique et de Thérapeutique*, December 22, 1887.

Solvin.—KOBERT, of Dorpat, in the *Therapeutische Monatshefte* for December, 1887, describes under the name *solvin* a substance produced by the action of sulphuric acid upon glycerine-ether, as in the action of the acid upon oil of almonds and castor oil. This substance has been recently introduced as a solvent for iodoform, naphthalin, salicylic acid, salol, and a great variety of substances. It is a clear, oily liquid, capable, in very

small quantities, of forming emulsions. Kobert's experiments upon animals have shown that solvin possesses poisonous properties, and that it should be introduced into the organism with caution.

The Treatment of the Throat in Diphtheria.—DR. BARUCH, of New York, in the *Medical Record* of December 24, 1887, describes his mode of treatment as follows:

Disinfection of the throat is best accomplished by the frequent internal administration of tonic, astringent, and antiparasitic remedies; not by the brush, probang, or atomizer. Neither water nor food should be permitted for ten minutes after the medicine has been swallowed, thus allowing it to bathe the diseased surfaces. When the patient is tractable and willing to aid the attendant, I advise the hourly application of a fifteen per cent. solution of trypsin. In one case a ten per cent. papayotin solution proved equal to trypsin, but much more expensive. In nasal diphtheria the trypsin solution is invariably prescribed, to be applied hourly with the medicine-dropper or soft brush, because this can be accomplished without damaging the mucous membrane even in an intractable child. It softens and pulpifies the false membrane, and facilitates its removal by injections of salt water, or 1 : 10,000 bichloride, which in this dangerous form I order applied at frequent intervals. It will appear, therefore, that while I abstain from local treatment in most cases of faucial diphtheria, I apply it vigorously, but gently, by the brush and soft rubber-tipped syringe in all cases of nasal diphtheria. When the air-passages are involved I also resort to local treatment by inhalation of the vapor from boiling lime-water impregnated with oil of turpentine—one ounce of the latter to one quart of the former, used continuously. Properly applied, these inhalations have aided me in saving several of my patients from tracheotomy.

Purgation after Abdominal Section.—MALCOLM, Assistant Surgeon to the Samaritan Free Hospital for Women, publishes in the *Lancet* of December 24, 1887, the following notes of a case of abdominal section, for ovarian tumor:

Sir Spencer Wells went abroad on the third day after the operation, leaving me in charge of the case. On the evening of the third day, and all through the fourth day, there was a tendency to sickness and abdominal distention, but flatus passed freely from the rectum. On the fifth day that portion of the bowel was found to contain feces, and a small enema produced a copious evacuation, after which the feeling of sickness and the distention passed off. The action of the bowels was followed by considerable pain in the right groin about the position of the pedicle, and the temperature rose in a few hours to 100° in the axilla, but again gradually fell to 98° on the seventh day after operation. The bowels moved seven times between the fifth and tenth days, and much flatus also escaped. During this time, however, the pain in the right groin increased, until the patient could not bear the slightest pressure over this part. The rest of the abdomen became slightly distended, but was free from tenderness. The administration of one-sixtieth of a grain of atropia and one-twelfth of a grain of muriate of morphia, repeated every four hours, eased the pain; but the appetite became very bad, and the patient felt constantly sick after the eighth day. She also lost strength, and her pulse, which had been down to 84 and of good character, gradually rose to 100, and became very feeble. On the tenth day her temperature, which had not been above 98.6° for two days, also began to rise a little, and reached 99.6° in the axilla at 9.30 A.M.; she had been very restless all night, could not take any food, and felt very sick, while the abdomen had become more distended. This grouping of symptoms after abdominal section I have learned to associate with obstruction in the bowels, which may lead to a rapidly fatal termination of the case. In the belief, therefore, that my patient was in extreme danger from this cause, and that the best method of treatment of this condition at this stage is by the administration of a purgative, I gave her a pill containing one-third of a grain of calomel and as much jalap, one grain of compound extract of colocynth, one grain of extract of aloes, one-twentieth of a grain of jalapine, and a little ginger. The patient had frequently used similar pills, prescribed by her own medical attendant, Dr. Morley, of Blackburn, and they had moved the bowels gently during health. On this occasion the pill produced two small loose motions, and a dose of Hunyadi water, given next morning, was followed by other loose motions. The last of these was at 5 P.M. on the eleventh day after operation. Twelve hours after the pill was given the temperature had risen to 100.6° in the axilla, perspiration was extremely profuse, and the patient had become alarmingly weak, but she was then able to take food without feeling sick. After the bowels were quiet twenty minims of tincture of opium were given by the rectum, and the patient had a good night's rest. She was much stronger next morning, and this improvement continued. The pain in the right groin, however, became more severe, and the tenderness radiated over the abdomen to some distance from this part. The temperature continued feverish but irregular till the thirteenth day, when it fell to normal and remained so. On this day also the pain shifted upward and toward the right loin, and next morning there was only slight tenderness on pressure in the groin and none in the loin. Now, however, the patient at once complained of pain when I applied pressure over the colon in the region of the gall-bladder. The seat of tenderness afterward shifted from time to time along the course of the colon, and finally was found low down in the left groin on the fifteenth day after the operation. The bowels had then been quiet for four days, and I warned the patient that she would soon have an action of the bowels with considerable pain. That afternoon several large, very hard fecal masses passed into the rectum, whence they were removed with some difficulty by the nurse, after which recovery was uninterrupted.

A Laxative Gastric Tonic.—BARDET has used to advantage:

Ext. fluid. cascara sagrad. . . .	ʒ 5.
Tinct. nucis vom.	♏ 30.
Aquæ destil.	ʒ 28¾.
Syrup. simpl.	ʒ 3¾.—M.

Sig. Dose, a teaspoonful. — *Journal de Médecine*, December 18, 1887.

Movable Kidney. — DR. GRANT, of Melbourne, concludes an extended article in the *Australian Medical*

Journal of November 15, 1887, upon this subject, as follows:

1. That mobility of the kidney, even though slight, is no mere anatomical curiosity, but a condition of real clinical importance, producing serious disturbances of function in various organs.

2. That it produces its effects chiefly by reflex irritation of these organs through the sympathetic centres, and but little by its mechanical action.

3. That the irritation may influence the sensory, motor, or secretory functions of the organs affected.

4. That variations in the character and intensity of the symptoms may be accounted for by variations in the intensity of the irritation, a minor intensity stimulating, and a major intensity paralyzing, certain reflex centres.

5. That the so-called strangulation of the kidney is probably due, not to a mechanical or inflammatory obstruction, but to sudden and extreme intensification of the irritation.

6. That in all cases of obscure abdominal pain, a systematic search for a movable kidney ought to be made.

7. That a certain peculiar localization of intestinal disturbance forms presumptive evidence of movable kidney.

8. That the diagnosis rests on palpation, the results of inspection and percussion being of no value, and the rule usually given as to the latter being probably contrary to the fact.

9. That, as the condition does not threaten life, and is not inconsistent even with great longevity, no operation involving danger to life is justifiable.

10. That mechanical appliances may palliate, but cannot remove the symptoms.

11. That the rational treatment consists in endeavoring to restore the natural pad of fat, and in diminishing the reflex irritability, and that for the latter purpose codeia is peculiarly adapted, on account of its special power of lessening the irritability of the afferent fibres in the nerves of the abdominal viscera.

The Bacteria of Whooping-cough.—APHANASIEFF, a Russian observer, has found in the sputa of those having whooping-cough short, small bacteria, which, when inoculated into the respiratory passages of puppies and rabbits, produced an affection almost identical with whooping-cough. They always settled themselves in the trachea and bronchi of animals, and were found in the lungs of children who died of whooping-cough. The name *bacillus tussis convulsivæ* was proposed.—*Le Bulletin Médicale*, November 20, 1887.

A Case of Endolaryngeal Epithelioma, Destroyed by the Galvano-cautery with Success, Twenty Years ago.—SCHNITZLER is quoted by the *British Medical Journal* of December 17, 1887, in an article on the diagnosis and treatment of endolaryngeal neoplasms, in which he relates the case of a woman in whom he had destroyed an epithelioma of the larynx by the galvano-caustic method twenty years ago, and who was still living. The diagnosis of epithelioma had at the time been fully confirmed microscopically by very competent and trustworthy pathologists. He was nevertheless afraid that, on hearing the case, some might be disposed to make the usual comment referred to in the following remark of Ducarques: "Le cancer est incurable parcequ'on ne le guérit pas ordinairement; on ne peut le guérir puisqu'il est incurable; donc quand on le guérit, c'est qu'il n'existait pas." The following are the details of the case: E. L., an actress of Prague, twenty years of age, was, in January, 1867, admitted into the clinic of the late Prof. Türck, of Vienna, for persistent hoarseness. Prof. Türck stated that vegetations of the vocal cords were the cause of the voice affection. Repeated operations performed by him with the knife (in February and June, 1867) were only temporarily successful. When the patient came, some months later, into the clinic of the late Prof. Oppolzer, she was almost absolutely aphonic, and also complained of considerable difficulty of breathing. Prof. Schnitzler, who was then assistant to Prof. Oppolzer, found that the vocal cords were much swollen, and detected the presence of red vegetations of a granular appearance at their inner side. The vegetations almost filled up the rima glottidis. In spite of the youth of the patient, Prof. Schnitzler diagnosticated epithelioma, and immediately removed the vegetations, which already threatened to suffocate the patient. The first piece of a large size (of the size of a cherry-stone) which was removed by the galvano-caustic loop, was microscopically examined by Drs., now Professors, Biesiadecki and Scheuthauer, then assistants of Prof. Rokitansky. Both these experts pronounced the growth to be epithelioma. Prof. Schnitzler afterward heard that Prof. Türck had also at once made the diagnosis of epithelioma, and that his diagnosis had been confirmed by the microscopical examination of Prof. Wedl. Prof. Schnitzler had repeatedly destroyed the disease by galvano-cautery, and was happy to be able to show the patient at the meeting of the Imperial Royal Society of Physicians of Vienna on October 16, 1868, as being cured, that is to say, as far as we are entitled to speak of the cure of epithelioma. The patient was still hoarse, but her voice could already be distinctly heard, and the dyspnœa had completely disappeared. No trace of the growth could be discovered (see Report of the Society of Physicians of October, 1868). The patient remained under the observation of Prof. Schnitzler for some years longer, and he thought it possible that she might have lived for ten years after the operation. Before, however, he published the case, he wished to obtain exact particulars as to the patient's fate, and, therefore, applied to the physician who had in the first instance sent the patient to him. To his great surprise he learned that she was still alive, and that the physician had seen her only recently at Prague, twenty years after the laryngeal epithelioma had been destroyed. Prof. Schnitzler went on to ask if it was possible that such excellent microscopists as Biesiadecki and Scheuthauer could have made a mistake. He could not believe this, as their diagnosis was quite positive. After all, why should not recovery take place after the galvano-caustic destruction of an epithelioma, as well as after an extirpation with the knife? The possibility of curing some kinds of carcinoma was, as is well known, admitted by Rokitansky.

Adulterations of Antipyrin.—The *British Medical Journal* of Dec. 17, 1887, remarks that recent investigations have shown that antipyrin is frequently adulterated with benzine and phenylhydrazine. Antipyrin does not change litmus paper; it is easily soluble in water, alcohol, and

benzine; it is also soluble in chloroform and glycerine, but not so quickly. Treated with picric acid, chloride of gold or platinum, antipyrin gives a yellow precipitate; with perchloride of iron a blood-red precipitate is obtained; nitrous acid produces a green precipitate, and permanganate a blood-red precipitate. The presence of phenylhydrazine in antipyrin is shown by the reduction of Fehling's solution. The presence of benzine is detected by Berthelot's process. Antipyrin is mixed with nitric acid; ether is added; the liquid is then filtered and distilled; chloride of lime is added, and if the antipyrin contains benzine, the mixture assumes a violet hue.

Iodide of Sodium in Phthisis.—POTAIN has found the following a convenient formula:

Aquæ destillat.	ʒ 25.
Sodii chlorid.	ʒ 2½.
Sodii bromid.	grs. 75.
Sodii iodid.	grs. 38.

A dessertspoonful in the morning, in a glass of milk. This combination contains the salts found in cod-liver oil, and is of value in the treatment of the scrofulous and those in whom tubercular disease pursues a slow course. —*Revue de Clinique et de Thérapeutique*, December 8, 1887.

Aceto-tartrate of Aluminium, a New Antiseptic.—ATHENSTALDT prepares this substance by mixing a solution of 5 to 100 of acetate of aluminium and 2 to 100 of tartaric acid; the double salt formed is obtained by evaporation. The aceto-tartrate of aluminium is a brilliant, colorless mass resembling gum arabic in appearance. It has an odor of acetic acid, and dissolves readily in water. Its taste is acid, slightly astringent, not disagreeable. It dissolves in equal parts of water; the solution remains clear when heated. It is precipitated by alcohol. Its chemical composition is that of a double salt. When exposed to the air it becomes less soluble, through the loss of a portion of its acetic radicle. It is an innocuous antiseptic.—*Journal de Médecine*, December 18, 1887.

The Treatment of Epistaxis by Hot Water.—The Paris Correspondent of the *British Medical Journal* of December 17, 1887, writes that DR. ALVIN, consulting physician at Mont-Doré, recently treated a case of serious epistaxis by irrigation. The bleeding came from the right nostril. The blood trickled through the plugs, and forced its way through the puncta lachrymalia. The nose was swollen, owing to the collection of blood in the nasal fossæ. The dressing was removed. The blood flowed abundantly. Irrigation was performed with water at 65° to 70° C. (149° to 158° F.) by means of an English irrigator. The water returned through both nostrils and through the throat. In two or three minutes the bleeding was checked. The operation was not painful, notwithstanding the high temperature of the water; it was repeated twice during the evening. M. Alvin concludes that irrigation with hot water is an efficient, safe, and painless method of treating epistaxis. The patient should be watched for ten hours after the operation, in case it may be necessary to repeat it.

Two Successful Porro Operations.—PETERS, assistant to Gustave Braun, of Vienna, reports two successful Porro operations for osteomalacia. One child was stillborn; the other died fourteen days after birth from intestinal catarrh. — *Wiener medicinische Presse*, December 18, 1887.

Caffeine Intoxication.—GUILLIOT, in the *Revue Générale de Clinique et de Thérapeutique* of December 15, 1887, describes the "coffee sot" as follows:

The skin is pallid, yellowish, and slightly cadaveric. The face is that of a person prematurely aged; when coffee is used to great excess it is slightly swollen. The body is emaciated, muscular atrophy being present in marked degree. The eyes are brilliant, the pupils somewhat dilated and lacking in expression; the tongue, the lips, and the facial muscles about the mouth are tremulous, and present a characteristic appearance. In 23 cases the following disorders were found, which could be ascribed to coffee. Anorexia in 18 cases; disordered sleep in 16 cases; tremors of the tongue and lips in 16 cases; leucorrhœa in 12 cases; gastralgia in 11 cases; dyspepsia in 10 cases; various neuralgias in 10 cases; cephalalgia in 8 cases; vertigo and convulsive attacks in 4 cases; persistent constipation in 4 cases; constipation alternating with diarrhœa in 3 cases. In treating these cases it is best to stop the use of coffee at once, if the patient will consent; troublesome insomnia may follow, but this must be met by sedatives. The general treatment is tonic and hygienic.

Sodium Fluosilicate, a New Antiseptic.—DR. HAYWARD describes this newly introduced substance as follows, in the *British Medical Journal* of December 24, 1887: Sodium fluosilicate, the new antiseptic which has recently been coming into use, promises to prove an equally effective and much safer substitute for corrosive sublimate in midwifery practice. It is but slightly soluble in water, only to the extent of about two-thirds per cent. at 60° F.—that is, a pint of water will dissolve about fifty grains. It should be used in saturated solution. A few powders of fifty grains each will form but a trifling addition to the weight of the midwifery bag.

Antipyrin in Solution.—The following has been found a convenient formula for a solution of antipyrin:

Antipyrin	gr. 75.
Aquæ destill.	ʒ 20.
Rum	ʒ 5.
Syrup. limon.	ʒ 7½.

Each teaspoonful contains between 2 and 3 grains.—*Journal de Médecine*, December 18, 1887.

The Treatment of Lacerated Perineum at the Dublin Maternity.—DR. LANE describes, in the *Practitioner* for December, 1887, the treatment employed in the Rotunda Hospital as follows:

When the perineum is lacerated over three-fourths of an inch in extent, the practice is, having douched out the vagina with antiseptic solution, to suture immediately either with silk or catgut (using in the latter the continuous suture).

The results have been very satisfactory, chiefly owing, he thinks, to the stitches being inserted deeply so as to bring the whole of the torn surface into apposition. For if this be not done the lochia would probably collect

between the edges of the wound, causing them to become unhealthy, especially should the discharge be fetid, and this unhealthy condition when once produced is very likely to go deeper, until possibly it might invade the whole depth of the perineum, causing the stitches to slough out, and the wound to gape widely open. Dr. Lane considers that a patient whose perineum has been lacerated in the first confinement (especially if the child were large), and that it has afterward united properly, is much less likely subsequently to suffer from relapse than if the perineum remained intact, for in the latter case it would show that the parts were very relaxed.

Strophanthus.—HAAS, of Prague, concludes, from his clinical study of strophanthus, that the apex beat of the heart is much less distinct under the influence of strophanthus than under the influence of digitalis: the latter drug produces a sharply defined pulsation, while strophanthus does not so clearly mark the boundaries of the cardiac area, which becomes diffuse.

In cases where an exaggerated second pulmonary sound is present, the accentuated quality disappears under the use of strophanthus. The frequency of the pulse is, in the cases described, regularly lessened.

In three cases of stenosis of the cardiac apertures of high degree, the patients became cyanotic after taking strophanthus, complained of great dyspnœa, and went into collapse.

Haas found that patients suffering from fever bore much larger doses than those who had no fever; fifty drops of the tincture and more were given to fever patients without ill effect, while thirty drops, in twenty-four hours, was the usual dosage for patients not suffering from fever.—*Therapeutische Monatshefte*, Dec. 1887.

Trephining for Meningeal Hemorrhage.—A female patient, aged twenty-six, was admitted under the care of MR. CROFT, in St. Thomas's Hospital, about midnight on Dec. 11th, in a semi-comatose condition. She was supposed to have been knocked down and kicked by a horse. There was a scalp wound, not leading down to bone, behind and below the left parietal eminence. There was no evidence of fracture. During the night she passed into a state of absolute coma, and in the morning had complete paralysis of the right arm and leg, but not of the face. Mr. Croft trephined in the situation of the wound, removing about two ounces and a half of somewhat granular clot, which was spread out for some distance between the dura mater and the bone. The hemorrhage was from some vessels in the dura mater (probably posterior branches of the middle meningeal), and could only be arrested by pressure. About six hours later the power of movement returned in the right side, and her condition gradually improved. She spoke for the first time after the injury on the 13th. Although not yet recovered, she is still restless at times, and impatient of control; there is no paralysis, the wound is quite aseptic and healing, and the improvement continuous. A severe contusion of the groin was, however, followed by sloughing and cellulitis, for which incisions were required.—*Lancet*, December 24, 1887.

Chlorine Water in Ulcers of the Pharynx.—DR. WISE, in the *Maryland Medical Journal* of December 31, 1887, describes the case of a child whose tonsils, uvula, and pharyngeal space were covered with yellowish-white ulcers. The mother was apparently suffering the most; her tonsils were literally covered with ulcers, scarcely any normal gland tissue visible, while the pharynx and uvula were dotted with ulcers of various sizes from the palate to the surface opposite the trachea—very offensive breath and swollen cervical glands, headache, and severe pain upon deglutition.

After a gargle of permanganate of potash, insufflated calomel and chlorate of potash 1–3, I prescribed the following solution:

℞—Potassii chloratis . . : ℥ss.
Acidi hydroch. . . . . ℥j.—M.
When gas formed ad.
Aquæ . . . . . ℥iv.
Quiniæ sulph. . . . . ℥ss.

Sig.—A tablespoonful every four hours in a half glass of cold water, and dose proportionate to ages of children. Also, Tr. ferri chloridi, gtts. xx, every four hours.

In forty-eight hours the throat was perfectly clear—mucous membrane normal in color, with a healthy granulating surface at base of ulcers, and almost healed.

With the change of the solution, by adding the iron thereto, I have found its action in diphtheria equally satisfactory.

Rodent Ulcer of the Rectum.—DR. NORTON, in the *Medical Press and Circular* of December 14, 1887, describes his treatment of this affection as follows:

Among poor people when the ulcer has existed some few years, it is probable that the patient has already been treated at more than one hospital, and, as in doubtful cases of cancer, syphilitic treatment has had a fair trial, but without any success. It is clear that nothing but a destructive treatment can be of service; one may, therefore, employ a solution of pernitrate of mercury or of chromic acid, or the ulcer may be scraped, or the question arises whether it is advisable to remove the whole surface by a very shallow excision; in order to overcome the stricture the usual methods of treatment are employed, namely, the bougie, sudden dilatation, and incision. Dr. Norton has used the mercurial solution with advantage in these cases, though he does not claim to have cured the disease, and he has also used it with markedly good results in cases of epithelioma of the palate and pharynx, with unmistakable relief and retardation of the growth. He thinks this method of treatment in epithelioma, where it is difficult or dangerous to excise, has not been sufficiently practised by surgeons, and he sees no reason indeed why, with cautious and continuous application of selected escharotics, the growth should not be destroyed almost as completely as by removal with the knife. He has scraped the ulcerated surface, but find it difficult by this means to remove all that he desires. The cases in which he performed colotomy were treated by gradual dilatation for greatly constricted passage, and in all these the operation was resorted to because the passage of the bougie gave rise to an irregular rise of temperature, characteristic of septicæmia. Immediately after the operation the temperature subsided. Of these three cases one was soon lost sight of, the other two are still alive, one after a space of about five years, and the other two years. One continued her employment as a servant of all work for some years, the other, who is a married woman, has been incapacitated from work the whole time.

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EXTRAPERITONEAL EXPLORATIVE SECTION.

EXPLORATIVE incision of the abdominal walls has become one of the most common of all operations; in fact, almost all abdominal operations may be called exploratory, as it is impossible to foretell exactly what will be found. The simple exploration of the abdominal cavity for diagnostic purposes is attended with but little danger, and yet it must be admitted that the opening of the peritoneal cavity for this purpose ought to be avoided when possible.

At the Second Congress of Russian Physicians, PROF. W. SNEGUIREFF recommended exploration of the abdomen by means of incisions which did not go through the peritoneum, and subsequently BARDENHEUER published a communication upon the same subject in the *Deutsche med. Wochenschrift*, No. 13, 1887; and, recently, DR. A. VON GUBAROFF has presented a short paper upon extraperitoneal exploration in the linea alba, in the *Centralblatt f. Chirurg.*, No. 47, 1887.

Bardenheuer recommends the extraperitoneal exploration because it is less dangerous on the one hand; and, on the other, a large proportion of abdominal tumors are situated either extraperitoneally, or at least can be grasped much better from behind. It was found that the peritoneum could be easily separated for a large space without becoming gangrenous, and that by so doing, it became possible to examine and even remove tumors. This principle is not new, only its application has been somewhat extended, for all surgeons are familiar with separation of the peritoneum in the ligation of the iliac arteries, the removal of the kidney, the sectio alta, etc.

Bardenheuer describes three forms of extraperitoneal incision, the renal, the hypogastric, and the thoracic. The renal incision was found of value, not only for the removal of retroperitoneal tumors, but for palpation of the liver, head of the pancreas, the duodenum, colon, cæcum, and spleen. The hypogastric incision is made in a transverse direction above the symphysis, and is useful for the removal of calculi or tumors from the bladder. He has removed myomatous and carcinomatous uteri several times, and an extrauterine fœtation, almost extraperitoneally; and thinks the Cæsarean section may be performed in the same manner. The thoracic incision follows the bony boundaries of the thorax, and allows the detachment of the peritoneum from the tendinous centre of the diaphragm, without tearing.

Sneguireff and Bardenheuer each recommend lateral incisions for diagnostic purposes, but von Gubaroff pleads for section in the linea alba. He says the peritoneum can be readily detached to the extent of an inch on each side of the linea alba, and its elasticity permits an examination of almost the whole peritoneal cavity. He recommends it as a preliminary act in all cases of diagnostic laparotomy, because it is devoid of danger; and if the serous membrane is torn, the usual exploratory operation can be immediately performed. We present these views because the method seems to have a certain range of usefulness, but most surgeons will prefer to have the advantage of inspection as well as of palpation in those cases in which the diagnosis is obscure.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY CREASOTE.

IN the *Medicinische-Chirurgische Rundschau* for June, 1887, is a communication by SOMMERBRODT, of Breslau, on the use of creasote for the treating of phthisis. In this paper are reports of no less than five thousand cases treated in this way, during a period of nine years, all the patients being still able to be about. Using the formulæ devised by Bouchard and Gimbert he obtained no less than twenty-seven recoveries out of every hundred cases.

The formulæ were chiefly as follows: 15.3 parts of creasote to a quart of alcohol or Malaga wine, and 2 parts of creasote to 150 of cod-liver oil. From 3 to 5 minims of these two mixtures were taken daily, and in some instances he also used

creasote 3.5 parts, alcohol and water each 125 parts. Of the last as much as a teaspoonful was ordered twice daily in a glass of water.

Another method consisted in using gelatine capsules, after the manner of Reuss, each of which contained three-quarters of a minim of creasote and 3 minims of balsam of tolu. For the first twenty-four hours the patient took one, after that two, and for the succeeding eight days three in each twenty-four hours. When two weeks had passed the dose was increased to four capsules, next to five capsules, and in the fourth week as many as six capsules were given daily. Only in rare cases was the remedy badly tolerated.

When given to young persons the results were better than when administered to older ones, and climatic changes were also productive of very good results when combined with the use of the drug. Naturally it was noted that incipient cases were more improved than those cases which had already run a long course. In those instances where scrofulous glandular affections seemed largely present, this treatment was particularly successful, the irritable cough was relieved, narcotics were no longer required, and both bronchial and cutaneous secretion diminished. The action of creasote is, however, most slow, three months or a year being required before any great change can be expected.

The *Berliner klinische Wochenschrift* of July 6, 1887, also contains a discussion of the paper of FRÄNTZEL on the same subject by such men as GÜTTMANN, THORNER, LUBLINSKI, and ROSENHEIM, in which evidence was brought forward that this method of treatment is not so universally valuable as might be hoped.

SOMMERBRODT, in the *Berlin. klin. Wochen.* of November 28, 1887, defends his first paper, as far as defence is necessary, and evidently believes that very minute doses of creasote, such as have been used by some clinicians, are valueless.

The treatment of phthisis by creasote seems, from the results so far reached, to be at least worthy of further trial, and may be tried with advantage, perhaps, in those cases where other remedies seem valueless, or for some reason are contraindicated.

INACCURACIES IN THE HISTORY OF SPLENECTOMY.

IF statistical records of surgical cases are to have any value, they should, at least, represent the facts and exclude the fabrications, or erroneous statements of the past. No tabular record can be received with entire confidence unless the searches are known to have been made *de novo*, and from the original sources of information. And we must confess to being very sceptical about the carefulness of much of our statistical work, having so often detected inaccuracies when least expecting them. Fortunately for those who prefer to trust to their own labors, rather than to those of others, the large library of the College of Physicians of Philadelphia, and the still larger one in the Surgeon-General's Office, in Washington, furnish the means of consulting nearly all of the original publications that may be required; the few that must remain being attainable through correspondents in the older collections of European libraries.

Our literature shows how much more easy it is to perpetuate an error than to eradicate it after it has been copied and recopied, time and again. In illustration of this, we will take up the subject of splenectomy, confining our remarks to the extirpative operation for disease or displacement of the spleen. This is generally supposed to be a very ancient operation, and would be, if we could credit the original sources of information, but here is where we fail to be at all satisfied, and after weighing all the claims, come at last to the opinion, that a diseased spleen was first removed at Rostock, in Germany, by DR. QUITTENBAUM, only fifty-one years ago, *i. e.*, October 5, 1836.

If we could believe the oft-repeated statement of splenectomists, the initial operation was performed at Palermo, in April, 1549, by Adriano Zaccarello, of Palo, a town in the kingdom of Naples. But the best authorities in Italy make no claim to the case, and through them we learn the total unreliability of its historian, Leonardo Fioravanti, who in one of his eight books, *Tesoro della Vita Umana*, Venice, 1570, page 25, makes the statement that the said Zaccarello removed the spleen with a razor, and that the lady recovered. Perhaps Italy never produced a more notorious travelling charlatan and quack medical writer than Fioravanti, of Bologna, who ranged from Venice over the whole Italian Peninsula in his round of practice; and Zaccarello was of the same type, cutting for stone, operating for cataract, etc. Is it at all likely that such a man could properly ligate and remove a spleen of two pounds in weight, so as to secure success 338 years ago? Besides, Fioravanti's story did not appear until twenty-one years after the operation was said to have been performed, and if

he was worthy of credence we should have to add a second case, his own special work, done in Naples in 1551, as he states in another book; but this operation appears to have been overlooked.

The second historical case in order has been credited to "Ferrerius," in 1711, with a like fortunate result. Ferreri's operation was certainly not a splenectomy surgically considered, although the patient lost her spleen. The subject was a plethoric woman, thirty years old, who had an abscess of the spleen, with a fistula near the umbilicus. Ferreri opened the abscess, the splenic tissue broke down, and finally the capsule came away. The woman bore a child afterward, and in 1716 died. At the autopsy, no spleen being found, a report became current that it had been extirpated. Cases similar to this have since occurred, and one of them quite recently in this country.

A third success has in some tables been credited to Dr. Fantoni, of Milan, who certainly was not a splenectomist, according to the best Italian authorities. Our experience teaches us that Italian surgical historians make very decided claims to priority where they believe them to be well founded; and as they now reject all the three cases enumerated, the rest of the world may be content to drop them.

A fourth case has crept into literature through careless translating, and Dr. Volney Dorsey, of Piqua, Ohio, figures in table after table as D'Orsay, a successful splenectomist. Dr. Dorsey, on September 2, 1855, opened the abdomen of a farmer, forty years of age, who had long suffered with violent pain in the region of the spleen. This organ was enlarged and had contracted abnormal adhesions, which the operator broke down, with the effect of restoring the man to health. Such a procedure was a much more remarkable one thirty years ago than it would be now.

As the entire spleen has been removed because of disease or displacement, or both in combination, some sixty-two times; and the proportion of cures is decidedly on the increase in latter years, we can readily afford to confine the record to an enumeration of the cases known to have been of a legitimate character. The leukæmic spleen is the most hazardous to remove, and if the leucocythæmia is very decided the operation is always fatal. A simple hypertrophic spleen, recent or congenital, is less dangerous to exsect, and the displaced or "wandering" spleen the least. But in all the operations the risks from hemorrhage and shock are very great, and patients are liable to die in collapse in a few hours. In traumatic cases there is much less risk in the removal of the organ, and the records of the past are decidedly encouraging to the operator.

PLASMODIUM MALARIÆ.

THE facts concerning the plasmodium, or, as Osler proposes to call it, the hæmatomonas malariæ, are such as to convince the most sceptical investigator that its relations with the malarial fevers, if not those of cause and effect, are certainly of a most intimate nature. It was in a spirit of scientific incredulity that the observer just mentioned began the researches which ended in his conversion to the views of Laveran. It seemed, says he, "so improbable, and so contrary to all past experience, that flagellate organisms should occur in the blood. The work of the past six months has taught me a lesson on the folly of a scepticism based on theoretical conception, and of preconceived notions drawn from a limited experience." Marchiafava and Celli, who are now among the strongest supporters of the doctrine that the plasmodium is an animal parasite, at first opposed the views of Laveran and Richard, and contended that the hyaline bodies within the red corpuscles were neither more nor less than a conversion of their hæmoglobin into melanin.

One of the latest contributions to this subject is that of COUNCILMAN, of Johns Hopkins University, who, in an address recently delivered before the Pathological Society of Philadelphia, not only reiterated his belief in the plasmodium, but announced, with reference to it, further facts of interest, the results of his continued study of malarial blood.

The significance of these facts is so great that it is unnecessary to refer to the corroborative work of others.

Several independent, thoroughly trained workers, in different quarters of the globe, using, in their researches, the best lenses of the best opticians, have arrived at the following conclusions: 1. In the blood of malarial subjects, an organism is invariably found, which organism is absent in all other conditions. 2. With improvement in the condition of the patient, the parasite disappears or remains in but one of its polymorphic forms, the pigmented crescent. 3. Quinia, the universal specific for malarial poisoning, is fatal to this parasite; so much so that it is a *sine qua non* in the search for it, that the patient shall not have recently taken this drug.

What more is needed to complete the circle of this discovery? But one thing, from a scientific point of view, although, from a purely clinical standpoint, its absence is not conspicuous. It is the cultivation of the organism in a pure state outside of the body and the production of malarial fever by its introduction into the blood of a healthy individual. Attempts to effect these objects have thus far proved unsuccessful.

In a recent communication to the Royal Academy of Medicine of Rome, Marchiafava and Celli call attention to certain differences in the structure of the plasmodium which appear to depend upon the influence of season. Thus, in spring and summer the pigmented forms, in autumn and winter the unpigmented, are more commonly present. This observation had been already made by Golgi. In fatal cases, in which the cerebral vessels contain quantities of the plasmodium, the presence or absence of pigment, in accordance with the season of the year, is said to be quite evident. The statement that the segmentation of the intracellular pigmented bodies occurs shortly before a chill, has been confirmed by Councilman. After the destruction of the corpuscles, these bodies, now of oval shape, escape, and, according to the Italian observers just mentioned, penetrate into the interior of other red corpuscles, but this last statement appears to depend rather upon inference than direct observation.

The blood changes of malarial poisoning, to which this brief reference has been made, are open to the inspection of any one who has the proper optical apparatus and the requisite skill to use it. Their presence is admitted by all, but their parasitic nature is denied by a few. For example, Mosso claims to have produced in the blood of the dog, by injecting it into the peritoneum of another animal—a fowl—all the changes ascribed to the plasmodium, and Tommasi-Crudeli, who adopts his views, triumphantly declares that, in future, these alterations will be attributed to a *pseudoplasmodium*. On the other hand, Marchiafava and Celli, who have repeated Mosso's experiments, maintain that but for his unfamiliarity with the alterations of malarial blood, he would not affirm their identity with those of his experiments.

Considering the great amount of labor that has been recently bestowed upon the study of malarial blood, and the careful drawings that have been made of the phenomena, both intra- and extra-corpuscular, observed in it, the bare statement of Tommasi-Crudeli, that such processes are *necrobiosis*, as he terms them, are not uncommon in other diseases, such as typhus (typhoid (?)) and scarlet fevers and pernicious anæmia, will not go far in the way of refutation. His criticism, however, that attention has been too exclusively centred upon malarial blood, may appear well taken until the reflection arises that but for this very concentration the changes in it would not have been observed.

DR. T. MITCHELL PRUDDEN is in charge of the new laboratory of the College of Physicians and Surgeons, of New York, and is conducting a systematic study of the bacteria contained in the Hudson River ice, so much of which is consumed in New York and vicinity. He first personally visited the ice fields and took samples of water and ice to the extent of 300. He finds in a cubic centimetre of melted ice an average of 2033 living bacteria. The snow-ice has many more of them than the transparent block-ice. In the former kind of ice he has discovered as many as 12,000 to the centimetre. Dr. Prudden holds that the State Board of Health should have an active supervision over the ice harvest with the power to prohibit the business in localities that are too suspiciously close to large cities that discharge their sewage into the river.

ANOTHER blow at American industry may be constructed from a recent "warning to the public," by the police authorities of Berlin. From the official advertisement, it appears that, under the name of "Warner's Safe Cure," a brown liquid in bottles of about a pint capacity has been recommended as a remedy in kidney affections, and sold at the rate of four marks, or about a dollar, per bottle. Examination, it is stated, shows that the remedy consists essentially of "American wintergreen" (chimaphila?), and its value is, at most, two marks a bottle. This is an indorsement rather different from those familiar to our newspaper readers, signed by aldermen, clergymen, and cabinet ministers, but quite as instructive in its own way.

THE capital punishment Committee of New York State, appointed a year ago, has made a report to the Governor in favor of electricity as a means of judicial execution instead of hanging. Among the many projects laid before the Committee was one from a Parisian mechanic, who has devised a chair in which the spinal column of the condemned can be instantaneously broken.

AT the Eastern District Hospital, of Brooklyn, N. Y., about a month ago, a man who had been injured about the head and brought in by the police, died from erysipelas. The verdict of the coroner's jury censured the Hospital management on the score of inadequate attention. Suit has been brought, in the name of a young daughter of the deceased, against the institution and against the directors individually, for damages for the loss of her parent. The party bringing suit against the directors claims that, if this death can be shown to be due to want of proper care and attendance on the part of the medical staff, the directors can be made jointly and severally liable.

A BILL has been introduced into the New York State Legislature making the Health Officer of the port a salaried official at $10,000 per annum. The present receipts from fees are generally quoted at about five times that amount.

SOCIETY PROCEEDINGS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, December 28, 1887.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. CHARLES MEIGS WILSON read a paper on

THE TECHNIQUE OF OÖPHORECTOMY.

He desired to call attention to those methods which have received the stamp of approval of the surgeons who have thus far had the best results in abdominal surgery. The methods detailed below are the *common* property of the medical profession, evolved by the experience of many operators. Some the author first saw used in England and in Germany, others are the result of American ingenuity, and all are of great importance in the production of good results after operating.

Preparation of the patient.—The urine should be carefully examined, in order to see that it is free from albumen. Neglect of this rule has doubtless oftentimes been the cause of the patient's death. The gastro-intestinal canal should be in state of healthy function, and the day preceding the operation all portions of the intestine should be thoroughly emptied. This is best secured by the administration of some gentle laxative, such as the compound liquorice powder, in one or two drachm doses; or, if there be torpidity of the liver, by the administration of one-twelfth of a grain of calomel every hour until the bowels are opened; care, however, being taken in both cases not to purge the patient, and not to set up any excessive peristalsis. On the morning of the operation, the rectum should be emptied by an enema, and in order to prevent the accumulation of gas in the intestines, and to avoid gaseous distention of the intestines, it is generally best to put into the laxative enema administered a little turpentine emulsified with the white of an egg. This, as a rule, relieves the intestines of any accumulation of gas present in them, and at the same time is not irritating.

The patient should have, on the morning of the operation, a hot bath, which will add to her comfort and remove any sebaceous matter on her abdomen; it is best to have the patient sponged with alcohol after the bath. Also, on the morning of the operation, the patient should abstain from taking food, unless it be a cup of strong coffee or a little milk and lime-water. The administration of this food should always precede the time of operation by three or four hours. Above all, it is necessary that the patient have a chance to recuperate her strength and prepare for the mental and physical ordeal of the operation by having a rest in bed of at least three days before the operation, and this is especially important if the patient has come on a long journey and is fatigued with travelling.

The operation.—The room for the operation should, when possible, have walls and floors which can be thoroughly cleaned and disinfected, in order that the operation may be conducted in an aseptic atmosphere. An operating-table of plain wood, painted, resembling in size and shape the ordinary kitchen table, is all that is necessary. One or two stands of light construction, and a chair for the assistant who holds the patient's limbs, are all the furniture required. A large can containing distilled water and an alcohol lamp or gas burner under it so as to maintain the heat of the water at a fixed temperature, and a tube running from the can to the table, so that at any time during the operation the whole operative field can be flooded, should also be in the room. The sponges are used over and over again until the sponge fibre commences to show evidences of disintegration. These are always of the finest quality and for the most part those which are known as potter's sponges, or thin, flat sponges. For the first time, they are prepared as follows:

All of the dust is first beaten out of them. They are then immersed in a fifteen per cent. solution of hydrochloric acid for forty-eight hours. They are next thoroughly washed until all the acid is removed from their interstices. Then they are placed for half an hour in a solution of permanganate of potassium, 180 grains to 5 pints of water. This is done in order to bleach them. The hydrochloric acid solution is for the purpose of removing any mineral matter that may be in their meshes. They are again washed in running water and placed in a solution consisting of ten ounces of the hyposulphite of sodium, five ounces of hydrochloric acid, and sixty-eight ounces of water. They are allowed to remain in this solution for a period of from two to four hours until thoroughly bleached. They are next thrown into troughs of running water, where they are allowed to remain for several hours. Afterward they are placed in jars containing solution of bichloride of mercury (1 : 1000) and hermetically sealed until the time of operation. After an operation they are washed out in warm water, then soaked in a solution of sodium carbonate half an ounce to a pint of water for three or four hours, then rewashed in warm water and put back in the 1 : 1000 bichloride solution ready for use again. The instruments are all nickel-plated, with the exception of the cutting edges. They are prepared by being first scrubbed with glycerine soap and then immersed for several minutes in boiling hot water. They are then laid upon towels which have pre-

viously been immersed in the solution of the bichloride of mercury (1 : 1000) and thoroughly dried by superheated steam. They are then ready for use. The needles are kept in a five per cent. solution of carbolized oil. The ligatures and sutures are kept immersed in a solution of bichloride of mercury (1 : 500). They are always washed in distilled water immediately before being used. For suturing the abdominal wall silkworm-gut has been found most satisfactory, clamped and held in position by perforated shot. For ligatures twisted Chinese silk has been found to be the best.

The temperature of the operating-room should be about 75°. It is best to cover all portions of the patient's body with light blankets, with the exception of that portion of the abdomen involved in the seat of operation. An assistant sits at the foot of the operating table, and receives and holds the patient's limbs, passes the catheter just before the operation, and, when necessary, with the finger in the vagina, lifts ovary, tube, or pedicle up into the abdominal wound, as the operator may desire. A trusted assistant takes charge of the anæsthetic, and does nothing else. The chief assistant stands on the left side of the patient, ready to give immediate aid to the operator.

Immediately preceding the operation, the patient's abdomen is wiped off with a little ether, in order to remove any greasy matter that may be present upon the abdominal wall, and is then washed with the bichloride solution (1 : 1000), and carefully dried, especial care being taken to see that all the little folds about the umbilicus are perfectly clean. If there be an abundance of suprapubic hair, sufficient is removed to give a chance for extending the incision downward if necessary. The operator having satisfied himself that the patient is sufficiently anæsthetized—and by sufficient is meant that she is anæsthetized to the surgical degree—the abdomen is opened with a few rapid strokes of the knife, without the use of the director.

The operator can readily judge of the depth of the abdominal wall, and really no care is required until the subperitoneal fat is reached. The abdomen is opened in the median line, care being taken to strike the linea alba if possible, so as not to open the sheath of the recti muscles. If the operator fails to strike the linea alba, no time is lost in dissection in order to reach it; but if he misses it, the abdomen is opened if need be, through the rectus muscle. The rule with reference to the incision best to be followed is to make it as small as is compatible with the removal of the ovary or of the growth. Where oöphorectomy is performed, an incision one and one-half or two inches in length is amply sufficient. On the contrary, where an ovarian cystoma is to be removed, and the tumor is a large one, or, perchance, semi-solid, or where the adhesions are numerous, it is a great deal better to enlarge the incision in order that the growth can be readily reached, rather than to attempt its removal without knowing exactly what we are doing, and without having room enough to raise it up through the abdominal wound.

No care is taken to prevent the blood from the wound in the abdominal wall escaping into the peritoneal cavity, and although it is always best to avoid allowing the contents of a cyst getting into the abdominal cavity, it is thought best to complete the operation rapidly, rather than to avoid the escape of the cyst contents into the abdominal cavity. If, however, we are dealing with a pus tube then, of course, the greatest care must be used to avoid the escape of the pus into the peritoneal cavity, owing to rupture of the tube wall. The pedicle is transfixed with an aneurism needle, the penetrating arm of which is at right angles to the handle, and tied with stout, twisted Chinese silk. The loop of the ligature carried through the pedicle is held as the needle is withdrawn, and divided; each half of the pedicle is tied, and then the whole pedicle is tied with the remaining parts of one of the ligatures. The pedicle is severed close to the ligature, care being taken, however, to leave sufficient of the pedicle to prevent the ligature from slipping. An important precaution to take to avoid secondary hemorrhage, is to hold the pedicle with the Martin forceps for a few moments and then, if there be no evidence of hemorrhage, it is dropped back into the peritoneal cavity. Where there is any tendency to hemorrhage from the pedicle, it is lightly touched with the flat button of the Paquelin cautery. Where the ovary is bound down by adhesions, and there is oozing from those which have been torn asunder, they are lightly touched with the finger, which has been rubbed against a piece of the perchloride of iron.

The abdominal cavity is then invariably flooded for about five minutes with a stream of distilled water at a temperature of 100° F. It is surprising to see how, when a patient is profoundly shocked, this intraperitoneal irrigation with hot water will immediately restore the equilibrium of the pulse and rally the patient from the shock. In operating, care should always be taken not to handle the ovary or the meso-salpinx any more than is absolutely necessary, because, as has been frequently noted, the patient's respiration becomes embarrassed, and oftentimes temporarily ceases during the time that the ovary is in the grasp of the operator's fingers. Where there is a cyst of any size, its contents are aspirated with Mears's trocar; but where the cyst is small, we prefer to enlarge the abdominal wound, rather than to delay the operation by evacuating the contents of the cyst with the aspirator.

The toilet of the peritoneum.—First, as noted above, the peritoneal cavity is thoroughly irrigated with distilled water at a temperature of 100° F. The patient is then turned on her side and all the water allowed to drain out that will. She is then again turned upon the back and the peritoneal cavity carefully sponged, the intestines and mesentery being held out of the way with one hand while with the other the operator carries the sponge attached to a bayoneted sponge-holder, first into the retro-vaginal portion of the peritoneal cavity and then into both iliac fossæ. The sponging is continued until all shreads of coagulated blood are removed and until, when the sponge is brought up, only a pale pinkish fluid escapes when the sponge is squeezed.

When we are sure that all hemorrhage has ceased within the peritoneal cavity, the intestines, if any have been left out of the abdominal cavity, are carefully replaced and the mesentery is folded over them. If necessary to lift loops of intestine out of the abdominal cavity, they should be carefully wrapped in soft towels kept moist and at a temperature of 100° F. Upon the mesentery is placed a thin, flat potter's sponge which extends half an inch or more around all portions of the wound. This is placed there in order to absorb any blood which may escape from the needle punctures. Its centre is

grasped by a hæmostatic forceps in order to facilitate its removal after the sutures have all been introduced. A strong, stout needle threaded with a loop of catgut or Chinese silk, in order to snare the silkworm-gut, is used in the introduction of the sutures. The sutures are all introduced from within outward in order to avoid wounding the intestines with the point of the needle, and the free ends of each suture are held in the bight of the hæmostatic forceps. When the sutures are all introduced, the flat sponge is removed and the central suture is first tightened. It is found that, as a rule, this makes a neater approximation of the edges of the wound. The sutures are fastened with perforated shot. The abdomen is carefully washed off with the solution of the bichloride of mercury (1 : 1000), immediately after the wound is closed. There is then poured over the surface of the wound a liberal quantity of Keith's dressing (twelve per cent. solution of carbolic acid in glycerine). Over this are laid five or six thicknesses of Lister's gauze and over the first thickness of the Lister's gauze (the one nearest the wound surface) is dusted a liberal quantity of pulverized iodoform or equal portions of iodoform and boric acid. Over the Lister's gauze is then placed a thick wad of bichloride wool—that is, wool that has been wet with a solution of bichloride of mercury (1 : 1000) and thoroughly dried. Over this dressing is applied a bandage of opera flannel fastened with safety pins.

After-treatment.—For the first twelve hours after operation, the patient eats absolutely nothing. If, at the end of that time, the patient has rallied from her shock, and there is no hyperpyrexia or other symptoms of evil import, we commence to feed the patient with weak tea, ice-cold, giving two or three drachms every hour. This we have found by experience to be the best way of quenching thirst and furnishing gentle stimulation without overtaxing the stomach or producing nausea or emesis. At the end of twenty-four hours we commence the administration of food. This is preferably milk, if the patient will take it and the stomach retain it. If the stomach be irritable, we give koumiss or matzoon in place of milk. Unless the stomach rebels, the use of the milk is continued in half-ounce doses with a little lime-water, and after a few hours it is alternated with beef or chicken tea; on the fourth day, if the patient is doing well, we commence the administration of animal broths and soft food.

The dressing is never changed unless symptoms arise leading us to suppose there is something wrong with the wound, or trouble within the peritoneal cavity. The sutures are removed on the seventh or eighth day. Drainage is never employed, unless we have reason to fear tissue necrosis as the result of traumatism of the operation, or unless we fear hemorrhage into the peritoneal cavity. If symptoms arise which indicate danger, it is a very easy thing to open the lower angle of the wound, and insert a drainage tube; where a drainage tube is used, glass is the preferable form. Great care must be taken to see that the mouth of the tube is thoroughly closed by a little tuft of the bichloride wool. When it is necessary to remove any fluid contained in the drainage tube, it is best done with the long uterine syringe, and after the removal of any fluid it is well to pour along the sides of the drainage tube a few drops of Keith's solution of carbolic acid and glycerine. As a rule, the patient is kept in the hospital for a week after the sutures are removed, and is enjoined from travelling any distance until a month has elapsed from the date of operation. The bowels are moved, as a rule, upon the sixth day, preferably by a gentle saline. Recently we have found Rubinat water the best for this purpose, giving a third of a tumblerful as a dose.

Great care should be taken by the operator to know exactly how many hæmostatic forceps, instruments, and sponges, are present in the room prior to the operation. It is the duty of the nurse to count over the instruments and have the count verified by an assistant both before and after the operation, in order that the operator may avoid the distressing accident which has happened of leaving a hæmostatic forceps or sponge within the abdominal cavity.

The operation may be performed at any time, with the exception of the menstrual period, and five days before and five days after it.

Complications arising in the after-treatment.—A majority of the cases that die after oöphorectomy perish from sepsis. Where proper care is taken in the preparation and management of the operation to have everything about the patient, including the atmosphere of the operating-room, the patient's body and clothing, the instruments, the dressings, and, above all, the conduct of the operation in aseptic condition, experience has shown that an extremely small per cent. of patients die from this cause. Careful attention to the rules described in this paper will do a great deal to prevent trouble of a septic nature after the operation. Cleanliness is the desideratum, and this is not by any means attained by the use of antiseptic agents. Indeed, the best results have been obtained, not with the use of carbolic acid or corrosive sublimate, but by the use of distilled or plain boiled water. Personally, he believes that the use of carbolic acid is never justifiable, for it can never be used in solutions sufficiently strong to possess aseptic properties without subjecting the patient to the danger of carbolic acid poisoning. Where, however, septicæmia does present itself it is best combated by reopening the abdominal wound and irrigating the peritoneal cavity with hot water. The septic hyperpyrexia is best reduced by the administration of antipyrin, and when once the temperature is gotten within the safety line it is best kept there by the administration of quinia. In desperate cases good results in the reduction of high temperature may be hoped for from the ice-cap. Stimulus must be freely given, and opium or chloral in sufficient doses to control the nervous disturbance which is nearly always present. Where it is necessary to give opium or chloral it is best to give by the rectum, saving the stomach for the administration of food and stimulus.

Peritonitis following operation is generally septic in character; it is best subjugated by the use of salines. Shock after the operation requires the same plan of treatment employed in treating shock after any other operation. The usual means employed are external warmth and the hypodermatic administration of cardiac stimulants, as soon as the patient can swallow a few spoonfuls of hot coffee, will generally be found the best means to counteract the shock.

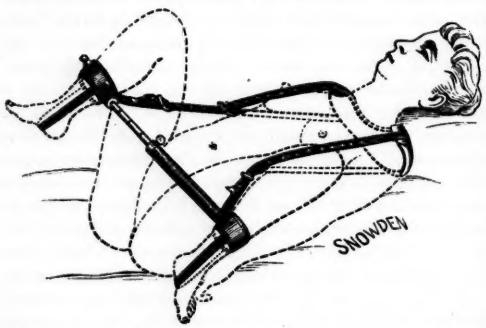
The limitations of oöphorectomy.—Dr. Wilson believes the operation is justifiable for the relief of ovarian pain, otherwise uncontrollable; for the artificial establishment of the menopause in cases of uterine fibromata character-

ized by rapidity of growth and exhaustive hemorrhage and in which all other means have been tried unsuccessfully; for the cure of those cases of hystero-epilepsy which have well-defined menstrual exacerbations and which have failed to yield to all other plans of treatment; and finally for those cases (which abound in every hospital for the insane) in which the mania or mental aberration is evidently dependent upon, or caused by, the act of ovulation. Indiscriminate, or what may be called hit or miss spaying, cannot receive too severe condemnation.

DR. W. W. KEEN reported

A MODIFICATION OF THE "PERINEUM DISTENDER" TO AVOID ITS INTERFERENCE WITH RESPIRATION.

In the frequent use of the "Perineal Distender," he has found the strap which passes under the nape of the neck very objectionable. This strap flexes the legs, and supports their weight. While doing so the weight of the legs pulls the head and neck strongly forward, and thus often seriously embarrasses the respiration.



To avoid this, he has had the wooden shoulder-piece of the old Day's apparatus for fracture of the clavicle slightly shortened, and finds it answers admirably. Under its loops, over each shoulder, two straps are passed with a buckle turned wrong side foremost at one end. The other free end, after passing through this buckle in the armpit, then is buckled to the cross-piece between the legs. By this means the pressure is brought on the shoulders instead of the neck, and respiration is entirely unimpeded.

He has also had two straps attached at right angles to the straps for the legs. By this means the leg-straps can be secured above the calf as usual or at the ankle. In this last position the new straps, by passing under the foot-soles, more completely flex the legs, and get the feet out of the way of the operator.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, December 8, 1887.

THE PRESIDENT, THOMAS M. DRYSDALE, M.D., IN THE CHAIR.

NEPHRECTOMY.

DR. M. PRICE exhibited a kidney which he had removed in consequence of a perforating bullet wound. The patient, a young girl, was handling the weapon when it exploded, the ball entering in front on the right side and passing through the liver and kidney and burying itself in the spinal muscles. At the time of the operation, twenty-four hours later, the pulse was 150, temp. 103°, peritonitis had set in and the patient was in collapse. An incision, six inches long, was made, and arterial blood was seen escaping from the kidney, which it was thought best to remove. The liver wounds were dry and not oozing. Rapid improvement continued for nine days, but there has since been a rise of temperature, and on the nineteenth day the temperature is 100°, the pulse 108, and the patient is doing well.

DR. B. F. BAER reported

A CASE OF SO-CALLED OVARIAN ABSCESS, SMALL SUPPURATING OVARIAN CYST,

occurring in a girl of seventeen years of age.

B. C. was sent to him on November 1, 1887. Puberty was established at eleven years of age, or, rather, she began to lose blood from the womb at that time, for she has never normally menstruated. As a rule, there would be a metrorrhagia every ten days to two weeks, sometimes lasting a whole week, but usually only three or four days. No serious trouble attended this flow except that she sometimes felt worn out, although it was not at any time excessive. At first after puberty the intervals were longer but gradually decreased until she was almost constantly flowing. She had never suffered much until last August, when she was taken suddenly with pain in the left ovarian region. The pain was sharp, cramp-like in character, and came on during the day, but she was not aware of any cause for it, such as over-exertion. The attack occurred a day or two after the cessation of one of these attacks of metrorrhagia. The pain increased in severity until it compelled her to go to bed, where she remained a week in great suffering under the care of her physician. She continued in bed four or five days after the pain ceased, from prostration and under advice. After this there was an interval of thirty days before the flow returned, the longest interval she had ever had. Then she began flowing again on October 2d, and continued to flow regularly every day for the next thirty days, at which time she first consulted him. Examination revealed the vagina rather patulous, cervix soft, and uterus occupying a position behind the symphysis pubis, where it was held by a tumor which occupied Douglas's pouch. The tumor extended as high as the superior strait and seemed about the size of a fœtal head. It was rather elastic, apparently circumscribed and fluctuating. He prescribed gallic acid for the metrorrhagia and advised rest. At the next visit he gave the patient ether and determined that the tumor was almost certainly of a cystic character and probably adherent to the posterior wall of the uterus and to the pelvic tissues generally. He advised its immediate removal because of the grave symptoms which it had no doubt produced, and because of the fear of its rupture and possibly fatal injury to the patient.

She entered Dr. Baer's private hospital on November 22d. Operation, November 24th. An incision two inches in length was made in the usual position, and two fingers introduced into the peritoneal cavity. He found the omentum adherent to the posterior wall of the uterus and upper surface of the tumor. This he dissected off and found a tumor the size of a large orange, slightly flattened, occupying a position behind the uterus, extending to the left. It was adherent everywhere and seemed

at first to be subperitoneal, but he soon discovered after beginning the separation of adhesions that his diagnosis of intraperitoneal tumor was correct. The adhesions were quite firm and it took ten minutes of careful manipulation to release entirely the tumor which he now brought up to the incision by placing two fingers under it, he next punctured it with a trocar and canula and drained away about six ounces of thick laudable pus, when it readily passed through the incision. The tumor was of the left ovary, the pedicle was very small and short, consisting of the ovarian mesentery and ligament. He could readily have removed it without removing the tube, so free was it from adhesions to that organ. Indeed, the tube seemed to be entirely free from disease. The opposite ovary and tube were perfectly healthy and were not removed. There was some hemorrhage, but it ceased after a little sponging and the abdominal incision was closed, drainage being considered unnecessary.

The patient complained of great pain after recovery from the anæsthetic, and it required three hypodermatics of morphia to relieve her. There was also violent reaction. Four hours after the operation the temperature was 102° and the pulse 148. This violent reaction was no doubt emotional, for as soon as the patient became quiet the temperature and pulse returned to the normal and did not again show the slightest indication of trouble. Her recovery was remarkably rapid and uneventful. She sat up on the eleventh and went home on the seventeenth day after operation.

Examination of the specimen showed it to be polycystic, the larger cyst cavity which contained the pus having a peculiar reddish, granular-looking lining membrane. At places papillary tufts were to be seen. The smaller cysts contained a clear fluid and had a smooth lining membrane. This case is interesting because of the early age of the patient, the early puberty, the frequent recurrence of the metrorrhagia, and the purulent character of the fluid contained in the cyst, the latter condition constituting what is commonly called ovarian abscess. This term is a misnomer. True ovarian abscess probably never occurs—that is, an inflammation in cellular tissue or stroma of the ovary which results in "a collection of pus surrounded by a wall of lymph," the surgical definition of abscess. When a pus cavity is found in an ovary Dr. Baer believes its origin can always be traced to a previously existing cystic degeneration of the ovary, the purulent formation being secondary.

DR. J. PRICE remarked that tubal disease may exist in virgins, the probable cause of infection being unclean hands and instruments of an examining physician. The small drainage tubes were introduced in London by Dr. Bantock, and were of seven different lengths. A dangerous rise of temperature certainly does at times arise in some cases from emotional causes, a good example of which, he thought, had occurred in New York, at the Woman's Hospital. A patient was operated on in one of the cottages, and was doing nicely; during convalescence she was moved into the hospital much against her will, her temperature arose immediately, and she died in a few hours.

DR. HIRST said that "emotional fever" is often observed after laparotomy. He had seen the temperature rise above 100° in an instant because he had told the nurse in the hearing of the patient that "the stitches were to be removed to-morrow." He had seen some very extraordinary cases of "emotional fever" in the puerperal state, having more than once seen the temperature rise suddenly to 104° in consequence of a fit of weeping. This phenomenon is not very uncommon in the Maternity Hospital, where the patients are for the most part young unmarried primiparæ.

DR. KELLY observed that instrumental infection of a healthy woman is a very real danger to which many victims have been sacrificed. He advised aspiration in all small cystic tumors before proceeding to their delivery at the incision. In this way a certain proportion of lives will be saved by avoiding the frequently inevitable rupture with an escape of poisonous contents amongst the intestines. A systematic use of the drainage tube is advisable, but not such tubes as are in common use. Dr. Dudley, of Chicago, uses a very delicate little tube which can be slipped in between the sutures and answers all purposes, especially used as he has long done, leaving in a piece of twisted absorbent cotton which carries everything up from the bottom of the tube by capillary attraction.

DR. DA COSTA remarked that he had used a tube with an outside diameter of only three-eighths of an inch four years ago, and did not think there was anything new about it as he had at that time bought it ready made from the shops.

DR. LONGAKER believed that many cases of diseased tubes are due to filthy instruments and careless manipulation. A case had come under his care of an unmarried woman of undoubted virtue, suffering from bilateral disease of the appendages. Her history was that of dysmenorrhœa for which the os had been incised. After this operation she was confined to bed for six months. Some months later she came into his hands, and was also seen in consultation by the late Dr. Albert H. Smith, who agreed in the diagnosis. The case passed out of his hands without operation. The conclusion that the operation was not done under perfect conditions is forced upon us, and also that by reason of this carelessness her condition was rendered worse than it had been.

DR. DRYSDALE, in reply to a question from Dr. Baer, said that often when the ovarian cells are crowded together the fluid will have the appearance of pus. The application of acetic acid will, however, always differentiate them from pus cells. Pus and ovarian cells can exist in the same fluid, but in cases where the pus cells become in excess the ovarian gradually disappear. A blow on the abdomen over the ovary has caused an inflammatory process which resulted in an ovarian abscess. Dr. W. L. Atlee had always drained after serious operations, but in his day tubes had not been introduced; he had used tents.

NEWS ITEMS.

The Improved Condition of the Crown Prince.—The *British Medical Journal* of January 7, 1888, writes as follows regarding the improved condition of the Crown Prince:

It is with profound satisfaction that we learn, on the highest authority, that the symptoms which caused so much alarm at the beginning of November have almost entirely disappeared. The growth in the subglottic region, which was then looked upon with such suspicion, has now shrunk to a fourth of its former size; the ulcer

on its surface has completely healed, and the submaxillary glands, which were enlarged and hardened, are now in a perfectly normal state. The little growth which recently showed itself on the left ventricular band (false vocal cord) sloughed away very soon after its formation, and the ulcerated surface left behind was nearly cicatrized when Sir Morell Mackenzie left San Remo. The Prince is now quite free from the slight, but constant feeling of discomfort about the larynx from which he had suffered since the beginning of last year, and his face has lost the somewhat waxen pallor which struck so many observers when His Imperial Highness was in England. We are able to state that, in the opinion of Sir Morell Mackenzie, the appearances in the Crown Prince's throat are now quite compatible with the more severe form of chronic laryngitis.

In illustration of this, it may be interesting to quote some remarks from his work on *Diseases of the Throat*, vol. i. p. 288, where it is stated that "in addition to congestive swelling of the mucosa and submucosa, there occurs in some rare cases an organic thickening or hypertrophy of the soft structures." It is also said there that "nodular excrescences the result of chronic inflammation are often met with," presumably in the rare cases just alluded to. These words were written eight years ago, and the case of the Crown Prince would seem to be a perfect example of the morbid condition which they describe. In addition to the chronic inflammatory process, there is no doubt that perichondritis is also present. In speaking of this affection, Sir Morell Mackenzie (*op. cit.*, p. 391) has called attention to the frequency of "impaired action of one or both of the vocal cords;" and it may be remembered that in the case of the Crown Prince the action of the left cord has been defective for many months past.

Whilst, however, there is now good ground for hoping that the disease may be of the comparatively favorable character here indicated, it would be foolish to allow ourselves to take too optimistic a view of the situation. The possibility of the affection being after all malignant, in spite of present appearances to the contrary, must not be too hastily dismissed; and, on the other hand, it should not be forgotten that even the milder complaint, toward which the symptoms seem now more or less definitely to point, is a serious one both in itself and in its possible consequences.

Gleditschia Triacanthos Again.—Pharmacist Metz, Instructor in Practical Pharmacy at Tulane University, New Orleans, has recently made careful experiments with the leaves of the honey locust, endeavoring to extract the alkaloid. He obtained from Messrs. Goodman and Seward, who first obtained the leaves, a description of the localities and trees from which the first leaves were taken, and endeavored to find the original sources. He failed, however, to find any trace of the investigations of Goodman and Seward; the substance which he obtained from leaves taken in the original localities and from the honey locust trees failed to exhibit the slightest anæsthetic or active properties; and his investigations confirmed his opinion that the alleged discovery was a hoax.—*American Druggist*, January, 1888.

Disinfection at the New Orleans Quarantine.—*Science* of December 30, 1887, describes the methods in use at the New Orleans Quarantine as follows: The methods practised by Dr. Holt are very thorough, and in their application, a tugboat, fitted up with all the necessary machinery, is employed. The bedding of the vessel, together with cushions, mattresses, carpets, rugs, etc., is removed from the ship to a commodious building in close proximity to the disinfecting wharf, where they are treated by moist heat at a temperature of not less than 230° F. During this process of steaming, every article is perceived to be saturated and intensely hot, the steam freely penetrating to the interior of mattresses, double blankets, etc.; but so great is the heat in the texture of the fabrics as to expel immediately all moisture upon drawing the racks and exposure to the open air. Shirts and collars instantly assume the crisp dryness they possessed before exposure, losing the musty smell of long packing in a trunk. Silks, laces, and the most delicate woollen goods show no signs of injury whatever from the treatment. Articles of leather, rubber, and whalebone would be injured by the heat, and are, therefore, disinfected with the bichloride of mercury solution. The time required to charge the chamber with apparel for disinfection is thirty minutes; time required for action of most heat, twenty minutes; for removal of articles, fifteen minutes—a total of sixty-five minutes.

Appointment.—Dr. V. P. GIBNEY, Professor of Orthopædic Surgery in the New York Polyclinic, has been appointed Surgeon-in-Chief in the Hospital for Ruptured and Crippled, New York.

Prize Awarded.—Dr. Daniel Longaker has been awarded the prize of $25 offered by the Philadelphia Clinical Society for the best paper read at its meetings in 1886.

A Spanish Congress for Gynecology.—A congress is to be held at Madrid, under the auspices of the Spanish Gynecological Society, in April or May, 1888. It will consist of three sections: obstetrics, gynecology, and "paidopatia," which, we presume, means diseases of children. The general and sectional work of the Congress will occupy eight days.—*Medical Press.*

A Successful Splenectomy.—From the *British Medical Journal* of recent date we learn that an enlarged spleen was removed in London on Dec. 5th by Sir Spencer Wells. The solid portion, now at the College of Surgeons, weighed one pound fourteen ounces, after a great deal of blood had drained from it. The patient was an unmarried lady, aged twenty-four. The wound healed by first intention, and she was so well on December 21st that she is expected to return to her country home before the end of the year. No doubt the case will be published, or brought before one of the Societies for full discussion.

Diphtheria in Straw Heaps.—A writer in the *British Medical Journal* of December 17, 1887, remarks that the works of Klebs, Ferrand, and others show that straw and manure heaps play a considerable part in propagating diphtheria. An army surgeon has tried to prove by statistics to what extent these statements are reliable. He has collected the following facts. In the French army diphtheria causes three times as many deaths in cavalry regiments as in the infantry. This affection is

most prevalent in the cavalry barracks in Paris which are in the vicinity of stables belonging to Paris omnibus companies and near a large depot for manure. In the German army the same proportion exists, there being three more deaths from diphtheria in the cavalry regiments than in the infantry. In the Austro-Hungarian army diphtheria is rare, and is principally met with in the cavalry regiments. MM. Emmerich and Chaveau consider that the diphtheria of birds is identical with that of human beings, also that fowls and pigeons may be the means of introducing diphtheria germs into any hospital. This theory, however, is still unproven.

The Medical Department of the University of Giessen.—Buildings for the accommodation of clinics for medicine, gynecology, and pathology are in process of erection at this university. At the suggestion of Professors Ludwig and Riegel, a clinic of 80 beds and an asylum of 200 or 300 beds are to be added.

The Gonococcus in Court.—From the *Medical Press* we learn that some little time ago, in Belgium, a man was accused of the rape of a little girl. On the clothing of the accused and on that of the alleged victim spots of pus were found, and handed over for examination to a physician and a pharmaceutist of the first class. These experts declared the pus to be gonorrhœal, whereupon the defending counsel demanded proof of the presence of gonococci. Dr. Castiaux, Professor of Forsenic Medicine at Lille, was, therefore, called upon to make a fresh examination of the spots with the object of determining the existence or non-existence of microörganisms. Dr. Lober, who took part in the examination, made pure cultivations of the pus on various media, and finally on sweetened and peptonized agar, and by this means was enabled to confirm the gonorrhœal nature of the pus.

A New Hospital at Vichy.—An extensive hospital has been recently constructed and opened at Vichy, at a cost of between $300,000 and $400,000. It comprises a hospital for the people living in the vicinity; a ward for the aged; a ward for orphans; a thermal hospital, devoted to treatment of those who visit Vichy to take the waters; a wing for military patients, and an official pavilion, with a chapel, and other auxiliary buildings.

Disinfecting Stations.—The Department of the Seine has ordered the erection of a station for compulsory disinfection in each of the eight districts under its jurisdiction.

The Number of Physicians in Prussia.—The statistics of Prussian physicians on April 1, 1887, showed 8228 physicians in civil life, and 813 physicians in military service. The distribution of civilians was fairly proportionate to the population.

The Successful Cremation of two bodies was performed in the new crematories constructed in Père-La-Chase by the city of Paris, on December 15th.

Sleep and the Gastric Juice.—Dr. P. V. Burjinski, of Professor Manasseïn's Clinic in St. Petersburg, having enlisted the services in the cause of science of some students and other persons who managed to overcome the natural repugnance most people feel to the passage of even a soft œsophageal tube, has made some investigations on the effect of sleep upon the acidity of the gastric juice. He estimated this acidity by means of a standard solution of soda, and he tested it also for hydrochloric acid. The best test for the latter he found to be floroglucin-vanillin. As, however, this cannot be used when there is any yellow color in the fluid to be tested, the subjects of the experiments were fed on the whites of eggs, all the yolks being carefully put aside. The result of numerous tests showed that during the night the gastric juice is less acid than during the day. Care was, of course, taken that the conditions regarding food were the same during the night as during the day. Dr. Burjinski also found that the amount of acidity varied directly with the amount of hydrochloric acid present.—*Lancet*, December 24, 1887.

Chemical Changes of the Blood in Tuberculosis.—A year ago Dr. Ernst Freund, a pupil of Professor Ernst Ludwig, published the results of his chemical researches on tuberculosis in the *Wiener medicinische Jahrbücher*, 1886. He stated that he had been able to prepare from the blood, as well as from the tuberculous growths of the organs of twenty-five tuberculous cases examined, an organic body belonging to the group of carbohydrates, exhibiting all the reactions peculiar to cellulose—viz., it was insoluble in the ordinary indifferent solvents, but readily soluble in a solution of cupric hydroxide in ammonia; it was resistant to the action of Schulze's mixture of nitric acid and chlorate of potassium; when dissolved in concentrated sulphuric acid, it was converted into sugar by boiling with diluted sulphuric acid, and when treated with nitric acid, ether, and alcohol, a collodion-like body was obtained; it assumed a blue color when treated with iodine in presence of concentrated sulphuric acid or of a concentrated solution of chloride of zinc, and a blue color by adding α-naphthol to its solution in concentrated sulphuric acid. For the sake of control the blood and the normal or pathological organs of thirty other cases were examined, but no trace of cellulose could be found in them. Freund's statements on the occurrence of cellulose in tuberculosis have been confirmed by recent researches carried out by Dr. Kabrhel in the laboratory of Professor Hobaszewski, of Prague. In continuing his researches on the chemical basis of tubercular disposition, Dr. Freund made examinations of ashes of the blood, and found that there is a considerable increase of the potassium salts in the blood of tuberculous persons, while the sodium salts and phosphoric acid are reduced in quantity. The ash of normal blood contains, according to the researches of Jarisch, 25.31 to 26.62 per cent. of potash, 23.7 to 26.13 per cent. of soda, and 8 to 8.96 per cent. of anhydride of phosphoric acid; the ash of the blood of tuberculous persons was found by Freund to contain 29.84 to 37.57 per cent. (miliary tuberculosis) of potash, 12.85 to 18.26 per cent. of soda, and 4.3 to 6.79 per cent. of anhydride of phosphoric acid. The urine in these cases, however, showed no increase of potash. On these results Dr. Freund based a series of therapeutical experiments, which are being carried out in the wards of Dr. Langer. The leading idea of these experiments is to withdraw carbonate of potash from the body and to introduce sodium salts. For this purpose, large doses of phosphoric acid and phosphate of potash, soda, and lime, followed

by carbonate and bicarbonate of soda and chloride of sodium, are used. Dr. Freund maintains that some of the cases treated in this way improved, especially those affected with chronic tuberculosis.

The Influence of Sensations on One Another.—Under this head Dr. Urbanschitsch, of Vienna, reports some curious experiments, the value of which must be left to future research to decide. His general conclusion is, that the excitation of one sense-organ increases the acuteness of the others. If a disk be regarded at such a distance that its color is indistinct, the hearing of a sound will bring out the color. The beating of a watch is heard more clearly with the eyes open than with the eyes closed. Red and green increase auditory perceptions; blue and yellow weaken them. The fact that we listen to music with our eyes closed is due to other reasons, and also to the fact that the *ensemble* appears best when the tones are not at their clearest. Smell, taste, and touch are open to the same influence. Red and green increase the sensitiveness of each of these senses; yellow and blue weaken their sensitiveness. Touch and temperature have a reciprocal influence. If one tickles the skin and plunges it into warm water, the tickling ceases; if into cold water, the tickling brings out the feeling of cold. These observations are regarded as showing the same reinforcing action between sensations as has been shown to exist between motions, and as offering a mode of explanation of those curious associations between colors and sounds so persistent in some minds.—*Science*, December 30, 1887.

The Dangers of Travel in Spain.—The *Lancet* of December 17, 1887, relates the following recent adventure of an English physician: Last week Dr. Middleton, of Scarborough, who was on his way to Tangier, halted with his companions at Cordova. Leaving his fellow travellers at the hotel, Dr. Middleton, accompanied as a guide by a gypsy, visited the cathedral, than which there are few more attractive buildings in the world, for when Cordova was the capital of the Moorish realm in Spain it was the great mosque of the city. He had begun to descend the narrow winding staircase of the tower, followed by the gypsy, when suddenly the latter attacked him from behind, nearly strangling him with one arm, while with the other hand he took two dollars from his intended victim's pocket, and wrenched his walking stick away. Dr. Middleton then drew his revolver and fired two shots over his shoulder, one of which entered the gypsy's mouth, the other taking a downward course through his body. The shots were fatal, and, covered with blood, Dr. Middleton descended and gave notice of the occurrence to the police, who, on their arrival at the scene of the tragedy, found the dead thief still holding in his hand the stick and the two dollars. Dr. Middleton was arrested, but has since been released on bail. The gypsy had, it appears, the worst of reputations, and a most significant fact is that he was companion two years ago to an Englishman visiting the cathedral tower, who was found dead at its foot. The case was then supposed to be one of suicide, but, looked at in the light of Dr. Middleton's experience, it is now viewed differently.

The Death of Gustav Theodore Fechner, Professor of Experimental Physics at Leipsic, is announced. The chief work of his life was upon psycho-physics, and around his theory and writings has sprung up a considerable literature on the subject.

Professor Arthur Christiani.—The death of this well-known scientist of the Physiological Institute at Berlin, is announced. He was a great authority on the physiological action of electricity, on the physiology of the nervous system, and on that of the sense of hearing.

Carl Langer von Edenberg.—This distinguished anatomist, Professor in the University of Vienna, died on December 8, 1887, aged sixty-eight. He was the pupil and assistant of Hyrtl, whom he succeeded. Among his numerous works on descriptive anatomy the greatest are his text-book of *Systematic and Topographical Anatomy* and *Six Contributions to the Study of the Joints.*

Dr. Bernutz, Physician to the Charité, died recently at Sedan. He contributed an extensive series of articles upon gynecological and obstetrical subjects, his best known book being a clinical work on gynecology, in two volumes, which he edited with Goupil.

Dr. Samuel A. Purdy died in New York city, January 12th, in the seventy-sixth year of his age. He was a member of an old colonial family, which has been well represented in regular medicine. He was a graduate in 1834 from the College of Physicians and Surgeons, New York, and one of the earlier members of the Academy of Medicine.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 10 TO JANUARY 16, 1888.

BARNETT, RICHARDS, *Captain and Assistant Surgeon.*—Ordered from further duty in Division of the Atlantic, to duty at Fort Riley, Kansas, to take effect at the expiration of his present sick leave.—*S. O. 5, A. G. O.*, January 7, 1888.

TESSON, LOUIS S., *Captain and Assistant Surgeon.*—Relieved from duty at Headquarters of the Division of the Missouri and as Examiner of Recruits at Chicago, Illinois, and ordered for duty as Post Surgeon at Watervliet Arsenal, N. Y., relieving Captain Henry G. Burton, Assistant Surgeon.—*S. O. 5, A. G. O.*, January 7, 1888.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JANUARY 14, 1888.

PURVIANCE, GEORGE, *Surgeon.*—To proceed to Detroit, Mich., as Inspector of Unserviceable Property, January 11, 1888.

AUSTIN, H. W., *Surgeon.*—When relieved to proceed to Chicago, Ill., and assume charge of the Service, January 12, 1888.

GASSAWAY, J. M., *Surgeon.*—Leave of absence extended fifteen days, January 10, 1888.

GOLDSBOROUGH, C. B., *Surgeon*—When relieved to proceed to New Orleans, La., and assume charge of the Service, January 12, 1888.

IRWIN, FAIRFAX, *Surgeon.*—To proceed to Boston, Mass., and assume charge of the Service, January 12, 1888.

CARTER, H. R., *Passed Assistant Surgeon.*—When relieved to proceed to Ship Island Quarantine, Miss., and assume temporary charge of the Service, January 12, 1888.

CARRINGTON, P. M, *Assistant Surgeon.*—Granted leave of absence for thirty days, January 10, 1888.